

# SUPPLEMENT.

## The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

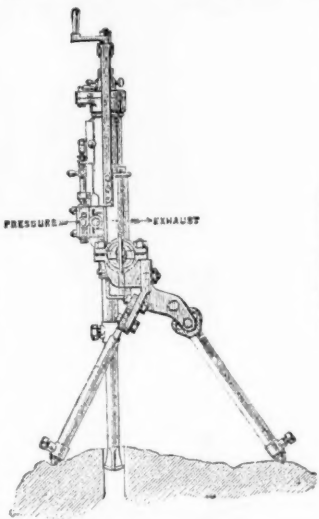
No. 2374.—VOL. LI.

LONDON, SATURDAY, FEBRUARY 19, 1881.

PRICE (WITH THE JOURNAL) SIXPENCE.  
PER ANNUM, BY POST, £1 4s.

### "Cranston" Rock Drill

IS DRIVING LEVELS 300 LINEAR FEET PER MONTH  
IN HARD QUARTZ ROCK. "EBERHARDT" TUNNEL  
AND DRIFT IS NOW DRIVEN IN OVER 6162 LINEAR  
FEET WITH THESE DRILLS AND COMPRESSORS.



CAN BE SEEN IN DAILY PRACTICAL OPERATION  
DRILLING 80 FEET OF BLAST HOLES PER DAY IN  
LIMESTONE ROCK AT ONE-FIFTH THE COST OF  
HAND LABOUR.

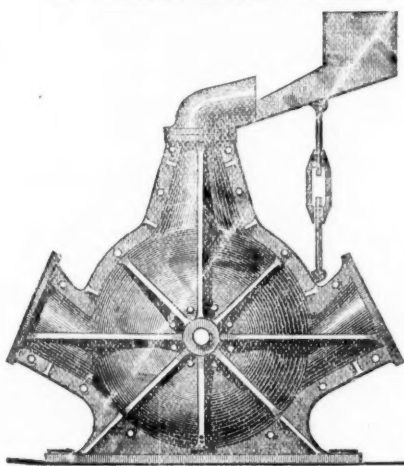
For other particulars and prices, apply to—

**J. G. CRANSTON,**  
22 Grey-street, Newcastle-on-Tyne.

### PULVERISING MACHINE,

FOR REDUCING  
MINERALS, CHEMICALS, CEMENTS, CEREALS, &c.

**T. B. JORDAN AND SON,**  
52, GRACECHURCH STREET, LONDON.



SIMPLE.  
DURABLE.  
EFFECTIVE.  
—  
OTHER  
SPECIALITIES.  
GOLD  
REDUCING PLANT.  
HAND-POWER  
ROCK DRILLS  
GENERAL  
MINING PLANT

Illustrated Catalogues on application.



### PHOSPHOR BRONZE.

REGISTERED TRADE MARKS.

THE BEST METAL FOR  
BEARINGS, SLIDE VALVES,  
PUMPS,

STEAM FITTINGS, &c.,

Supplied in Ingots or Castings.

WIRE, SHEETS, TUBES, &c.

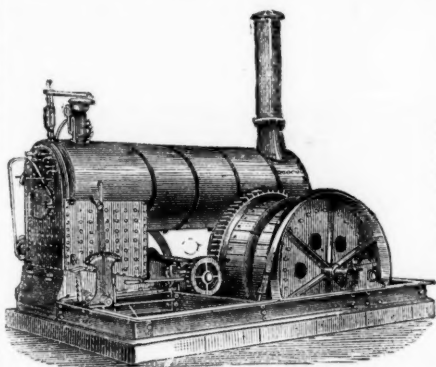
For Ingot Quotations, see Prices Current, page 5.

Sole Manufacturers:

**THE PHOSPHOR BRONZE COMPANY**

(LIMITED):

SUMNER and EMERSON STREETS, SOUTHWARK,  
LONDON, S.E.



### JOHN FOWLER AND CO.,

Steam Plough Works, Leeds; and 71, Cornhill, London, E.C.

MANUFACTURERS OF THE  
PATENT YORKSHIRE "COMPOUND" SEMI-PORTABLES.  
HORIZONTAL STATIONARY ENGINES.  
HAULING AND WINDING ENGINES, all sizes.  
LOCOMOTIVES, various gauges.  
AIR-COMPRESSORS, VENTILATORS, &c.  
CLIP PULLEYS; STEEL WIRE ROPES.  
MULTITUBULAR AND MARINE BOILERS.

SYDNEY AWARDS, 1880.  
THREE  
FIRST SPECIAL PRIZES.

Catalogues, Specifications, or References to Parties using our Machinery can be had on application

### PATENT "INGERSOLL ROCK DRILL."

MEDAL  
AND  
HIGHEST  
AWARDS.

1872—American  
Institute.  
1873—Ditto.  
1874—London  
International.  
1875—Manchester.

1875—Leeds.  
1875—Cornwall.  
1875—Rio de Janeiro.  
1876—Australia.  
1876—Philadelphia.  
1877—Cornwall.  
1877—Mining Institute.  
1878—Paris.

**LE GROS, MAYNE, LEAVER, & CO.**  
60, Queen Victoria Street, London, E.C.,

SOLE AGENTS FOR THE

### DUSSELDORF

WROUGHT IRON STEAM TUBE WORKS.

TUBES FOR BOILERS, PERKINS'S, and other HOT-WATER SYSTEMS.

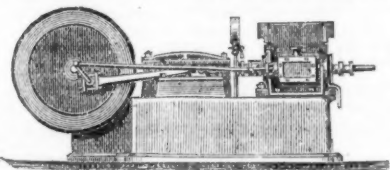
For Catalogues of Rock Drills, Air Compressors, Steel or Iron Steam Tubing,  
Boiler Tubes, Perkins's Tubes, Pneumatic Tubes, and all kinds of Machinery and  
MINING PLANT, apply to—

60, QUEEN VICTORIA STREET, E.C.

### THE PATENT "ECLIPSE" ROCK-DRILL

AND  
"RELIANCE" AIR-COMPRESSOR

PRIZE MEDAL,  
HIGHEST AWARD.



PARIS EXHIBITION,  
1878.

ARE NOW SUPPLIED TO THE  
ENGLISH, FOREIGN, AND COLONIAL GOVERNMENTS,  
And are also in use in a number of the  
LARGEST MINES, RAILWAYS, QUARRIES, AND HARBOUR  
WORKS IN GREAT BRITAIN AND ABROAD.

FOR ILLUSTRATED CATALOGUE AND PRICES, apply to—

**HATHORN & CO., 22, Charing Cross, London, S.W.**

### W. F. STANLEY

MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S  
GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND  
ART DEPARTMENT, ADMIRALTY, &c.  
MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every  
description, of the highest quality and finish, at the most moderate prices.  
Price List post free.

ENGINE DIVIDER TO THE TRADE.

ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

### The Barrow Rock Drill COMPANY

SUPPLY their CELEBRATED ROCK DRILLS, AIR COM-  
PRESSORS, &c., and all NECESSARY APPLIANCES for  
working the said Drills.

Their DRILLS have most satisfactorily stood the TEST  
of LONG and CONTINUOUS WORK in the HARDEST  
KNOWN ROCK in numerous mines in Great Britain and  
other countries, clearly proving their DURABILITY and  
POWER.

The DRILLS are exceedingly STRONG, LIGHT, SIMPLE,  
and adapted for ends, stopes, quarries, and the sinking of  
shafts. They can be worked by any miner.

For PRICES, Particulars and Reports of Successful and  
Economical Working, apply to—

**LOAM AND SON,**  
LISKEARD, CORNWALL.

**ELLIS LEVER AND CO.,**  
BRATTICE CLOTH MANUFACTURERS,  
WEST GORTON WORKS,  
MANCHESTER.

ESTABLISHED A QUARTER OF A CENTURY

### SOLID DRAWN BRASS AND COPPER BOILER TUBES,

FOR LOCOMOTIVE OR MARINE BOILERS,

EITHER  
**MUNTZ'S OR GREEN'S PROCESS.**

**MUNTZ'S METAL COMPANY (LIMITED),**  
FRENCH WALLS,  
NEAR BIRMINGHAM.

### JOSEPH FIRTH AND SONS' New Patent Brick-making Machine,

Embraces the following advantages—viz.:

Simplicity, strength, and durability. Compactness and excellence of mechanical  
arrangements, large producing capabilities, moderate cost.

It makes two bricks at once, and will make 2,000 to 14,000 plastic pressed  
bricks per day, hard enough to go direct to the kiln without drying; or it will  
make the bricks thoroughly plastic if required. For works requiring a machine  
at less cost the machine is made to turn out one brick at once, and is capable of  
producing 8000 bricks per day.

The Machine can be seen at work daily at the Brickworks of the Patentees,  
JOSEPH FIRTH AND SONS, WEBSTER HILL, DEWSBURY, as also their  
Patent Gas Kiln for Burning Bricks, which possesses the following amongst other  
advantages, viz.:—Economy in Fuel, Rapidity and Quality of Work, even Dis-  
tribution of Heat, and Total Consumption of Smoke.

[See Illustrated Advertisement every alternate week.]

### THE "JAMIN" PATENT ELECTRIC LIGHT COMPAGNIE GENERALE D'ECLAIRAGE ELECTRIQUE.

Capital, 8,000,000 Francs.

Proprietors of the Gramme Patent Machine for Alternate Current

**J. A. BERLY, C.E., A.S.T.E., &c.,**

Engineer, and Sole Agent for Great Britain and the Colonies  
16, NEW BRIDGE STREET, LONDON.



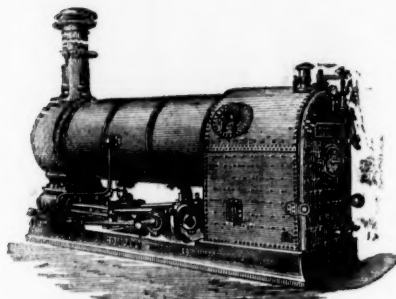
# HIGHEST AWARD MELBOURNE EXHIBITION, 1881. ROBEY & CO., ENGINEERS, LINCOLN.

## NOTICE.

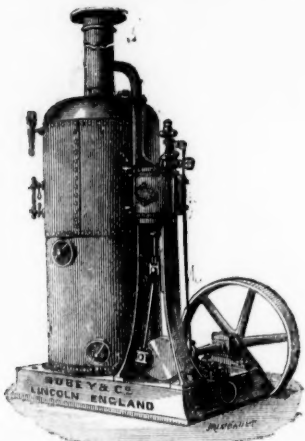
TO COLLIERY PROPRIETORS, MINE OWNERS, &c.

### The Patent "Robey" Mining Engine

Is complete in itself, ready for putting down and setting to work immediately, either as a permanent or temporary Winding or Pumping Engine.



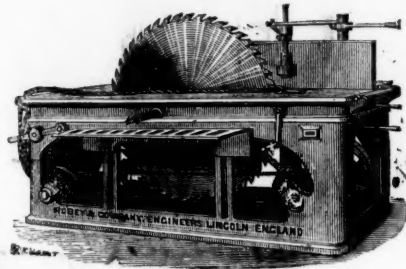
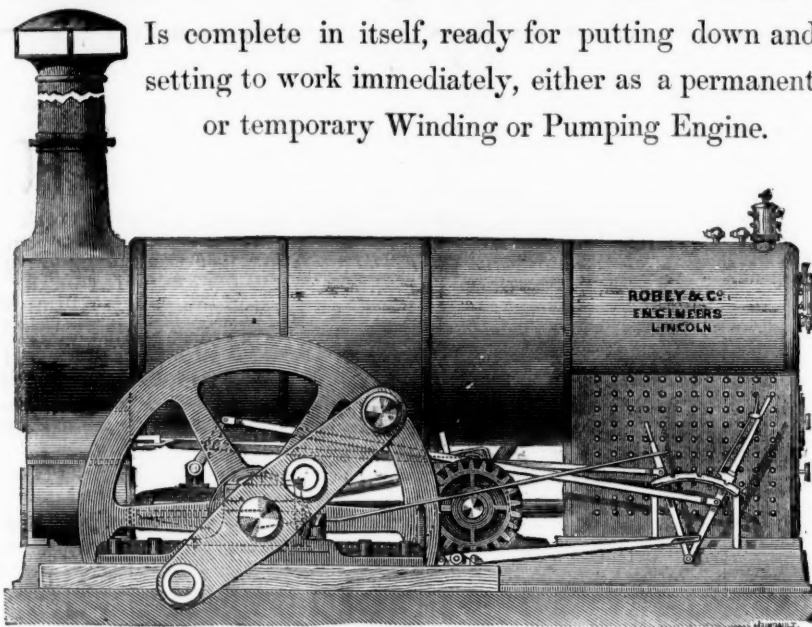
THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED, 4 to 50-horse power.



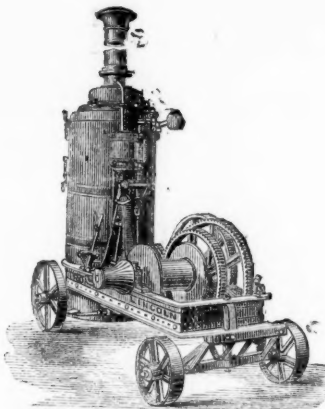
VERTICAL STATIONARY STEAM ENGINE AND PATENT BOILER COMBINED, 1½ to 16 horse power.



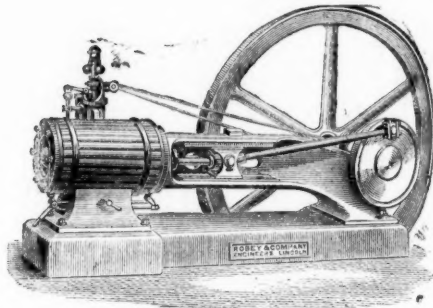
SUPERIOR PORTABLE ENGINES, 4 to 50-horse power.



SELF-ACTING CIRCULAR SAW BENCH.



ROBEY & CO. LINCOLN ENGLAND. IMPROVED HARROW LIFT, or VERTICAL HOISTING ENGINE.



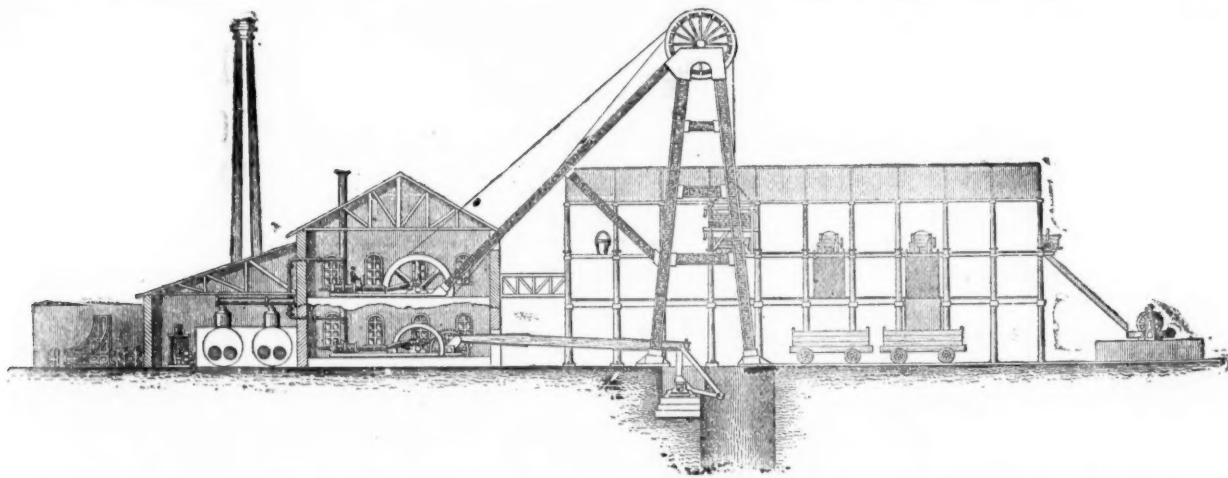
HORIZONTAL FIXED ENGINES, 4 to 60-horse power.

ALL SIZES KEPT IN STOCK, FROM 6 TO 50-H.P. NOMINAL.

For particulars and prices, apply to the

PATENTEES AND SOLE MANUFACTURERS,

**ROBEY & CO., ENGINEERS, LINCOLN.**



**YEADON AND CO., LEEDS, ENGLAND,**

Engineers and Contractors for every description of Plant for Collieries, Mines, and Brickworks.

### COLLIERIES.

WINDING, HAULING, AND PUMPING ENGINES; AIR COMPRESSORS; DIRECT-ACTING STEAM PUMPS; VENTILATING FANS; SEMI-PORTABLE BOILERS AND ENGINES COMBINED; PIT-HEAD PULLEYS; WIRE ROPES; WROUGHT-IRON HEAD GEAR, CAGES, and SCREENS; BOILERS; PATENT DETACHING HOOKS; COAL WASHING MACHINES; STEAM HAMMERS; STEAM CAPSTANS; PUMPS; VALVES. PATENT BRIQUETTE MACHINES (for Compressed Fuel).

### MINES.

CORNISH CRUSHERS and STAMPING MILLS; WATER WHEELS; REVOLVING and OTHER SCREENS; BLAKE'S ORE CRUSHERS; JIGGERS; BUDDLES; ORE-WASHING MACHINES; GRINDING and AMALGAMATING PANS; WELL-BORING MACHINERY; WIRE TRAMWAYS.

### BRICKWORKS.

PATENT BRICK MACHINES for DRY, SEMI-DRY, and PLASTIC CLAY; WET and PERFORATED CLAY GRINDING PANS; CLAY ROLLS; PUG MILLS; MORTAR MILLS; FRICTION HOISTS; PIPE-MAKING MACHINES; BRICK PRESSES; PATENT KILNS.

PLANS, SPECIFICATIONS, AND ESTIMATES FOR COMPLETE PLANTS ON APPLICATION.

BEST DESIGNS, WORKMANSHIP, and MATERIAL THROUGHOUT.

N.B.—Experienced workmen sent out, if required, to Erect or Manage. Considerable Saving in Prices by dealing direct with us, having for many years been chiefly engaged in the manufacture of Colliery, Mining, and Brickmaking Plants.



## Original Correspondence.

## THE BI-CHLORIDE PROCESS FOR THE EXTRACTION OF GOLD FROM QUARTZ.

SIR,—On one occasion about five months ago I was invited, with others, to witness the operations of an apparatus, &c., designed by Mr. Desigolles, to illustrate the above process [see reference to this invention in *Mining Journal*, Sept. 4, 1880]; and, so far as this was concerned, we saw nothing whatever new, for the cast-iron barrel on a horizontal shaft, with its iron balls and circular convex and concave copper plates of about 2½ ft. diameter, on a vertical shaft underneath the barrel, and on next floor, were quite familiar appliances. The experimental trial was altogether unsatisfactory, because we did not see, and were not even told, how much gold dust had been mixed with the already crushed quartz; neither were we informed how much of the latter was placed in the barrel, or what quantity of the bi-chloride of mercury had been used with it in the operation, which continued for 10 or 15 minutes. At the conclusion, we saw but little—a few minute globules of quicksilver on one copper plate and a trace of what was stated to be gold. Had Mr. Desigolles produced at the commencement of the operation (say) a few pennyweights of gold dust, and weighed and permitted us to see it placed with the crushed quartz, and then after the completion of treatment exhibited the amalgam, and in our presence extracted the gold and re-weighed it, then we should have ascertained the loss (if any), and been somewhat more satisfied with the experiment. But as I have intimated, there was nothing whatever seen—nothing properly explained—and we came away thoroughly disappointed. Since that we have heard nothing more of the process, but we have reason to believe that it has been generally pronounced a failure by the English and Americans, who are considered experts, chemically and otherwise, in the treatment of auriferous quartz.

The process has not been noticed by any of the scientific journals in France, England, or America for many months. It is now about two years since the discovery was announced, and there has been no advertisement I believe offering it for sale to the public, and it is confidently stated that the four or five parties interested in the patents are pretty well convinced that the process will not answer in practice in a large way. It may be a pleasing and interesting experiment in the laboratory and as a novelty, but of no practical utility, for the mine has yet to be discovered rich enough in gold to afford the immense expense of the Desigolles process. Bi-chloride of mercury by the pound is worth 4s. or 5s., and this quantity would be equal to about a good quart of the saturated solution approximately. Imagine, then, only 1 ton of crushed quartz subjected to this treatment, and that every grain of it must be in direct contact with the bi-chloride solution for a complete operation, and then consider how many quarts it would require to wet or saturate the 1 ton. Then, too, if crushing 50 or 100 tons every 24 hours, consider also the immense quantity of bi-chloride solution, and its subsequent treatment and expense. To me it appears preposterous in the extreme. The idea of using such a costly agent to extract (say) ½, or even 1 or 2 ozs., of fine gold dust from 2240 lbs., or 1 ton of quartz. If the few pennyweights of gold per ton could be concentrated by an economical, speedy, and effective process, so as to reduce the ton of crushed quartz to a very few pounds, then the bi-chloride solution might be profitably used.

A few years ago I had very considerable practical experience in gold mining in Virginia, California, and New Grenada, about 60 or 70 miles west of Panama, in the province of Veraguas, and I have yet to see a more efficient and satisfactory method of winning the gold from its matrix than by bringing it into a direct contact with the fluid metallic mercury by the most approved appliances at present in use. I believe with Mr. C. F. Bray, of Birmingham, whose interesting letter on "Modern Gold Mining—Its Success and Failure," which you published in the *Journal* of Feb. 12, that in many—perhaps most—instances the stamps for crushing quartz are too heavy, and that much of the gold is so thoroughly beaten that many of the grains are flattened into laminae, so thin that it is floated away by the water, which is too frequently used in excess in the stamps battery.

THOS. D. SARGENT.

Hotel Chatham, Paris, Feb. 16.

## MAGNETIC SEPARATION OF ORES.

SIR,—In reply to the letter of "Dresser," desiring information on the magnetic separation of ores, allow me to state that I have separated large quantities of ore with my machines with good commercial results, and can supply machines to separate any quantity of ores that contain the following mixtures:—

- 1.—Iron and copper pyrites from blende or tin.
- 2.—Spathic iron from blende.
- 3.—Pyrites (auriferous) from matrix.
- 4.—Magnetic pyrites from copper pyrites.

The cost of working on any of these ores would not exceed 4s. or 5s. per ton except in countries where fuel is very expensive. "Dresser" will be aware of the difficulty there is in separating most of the above ores, owing to the similarity of their specific gravities, and how unsaleable they are to smelters unless separated. I have separated copper pyrites from blende, and spathic iron from blende, mixtures which were unsaleable, and made them of their full initial value for the respective metals. I shall be happy to try any samples of these mixtures of ores that persons interested may like to forward, and to inform them if they can be treated, and probable cost.

Bishopgate Avenue, Feb. 16.

FREDK. J. KING.

## KITCHEN RANGES, AND SMOKE PREVENTION.

SIR,—In my letter in last week's *Journal* I suggested means for reducing the waste of fuel and excessive production of smoke in ordinary domestic fireplaces, and proposed to offer similar suggestions in reference to kitchen ranges and boilers. These I now proceed with.

The two elements of economy in kitchen ranges are apparently simple, but really very complex.—1. That the fuel be thoroughly consumed, and its full heating power thereby evolved.—2. That the heat evolved by the fuel be effectually and controllably transmitted to the viands, &c., being baked, boiled, stewed, or roasted. The fire in a kitchen range is far more difficult to economise than that in a room fire-place, owing to the many points at which demands are made on its heat. The front must give radiant heat for roasting or toasting, the top must give radiant and conducted heat for boiling pans, the back must give radiant and conducted heat for the boiler, and the side or sides must give conducted heat for the ovens and hot-plates. So far nearly all varieties of kitchen range are alike, but there is a marked difference between the old-fashioned open ranges, with a comparatively weak draught through their flues, allowing slow combustion in their large grates, and the modern close ranges in which the full draught of the chimney can be directed through the small grate, causing it to have the intense heat and rapid combustion of a furnace. In these close ranges it is common to heat the ovens and hot-plates entirely from the top of the fire, only the boiler being heated from the lower part as usual. This defective arrangement tends to carry an excessive quantity of soot into the oven flues, and necessitates their frequent and thorough cleaning, as a coating of soot ½ in. thick will reduce the heat transmitted to the oven, &c., by fully one-half.

In most kitchens fully half the fuel might be saved by thoroughly cleaning the oven and boiler flues daily with a scraper and a hard brush, instead of clearing them carelessly once a week; and the more even effect of the fire on the ovens with flues always alike clean would simplify many of the difficulties of good cookery. An equal economy and equal benefit to the cooking may also be effected by the proper use of the dampers. I have seen some ranges made without dampers, and many where the dampers always stand wide open; but only once have I found a cook who seemed to use the dampers to the best advantage. The right way is only to open the dampers widely when the fire needs blowing into full heat; as soon as the fire is full red close the dampers so much as to have only a slow draught through the flues, and the moderate quantity of air thus passing

through the fire will become intensely hot, and will give the ovens and boiler the fullest attainable heat, while it also economises the fire and keeps it at full heat for a long time. If, in the common way, the dampers are kept full open, the fire will be soon blown away by the excessive quantity of cold air drawn into it, wasting the fuel and cooling the flues, so that the oven and boiler will not be so hot or so evenly heated as by making a slow draught when once the fire is well burnt up.

Economy and efficiency may be effected in open ranges, and to some extent in close ranges, by enclosing the front of the fire when no roasting is going on, so as to confine the heat more to the oven and boiler. This may be effected by hanging on the bars one or two iron-plates called oven heaters, which may be had at almost any ironmongers. In open ranges fitted with a rack and moving side, the fire may be made to burn far more economically by taking out the loose side and building a sloping side to the fireplace with fire-bricks or slabs, so as to have the full width at the top for boiling several pans, and only a narrow width of fire close to the oven at the bottom part of grate.

The most effectual means of reducing the smoke and soot is by the frequent supply of fresh coal in small quantities, instead of putting on half a scuttle full at once, as many people do. The system of little and often has been proved to be best for every kind of coal fire, from a boiler furnace to a parlour fire.

I have abstained from expressing an opinion on the relative merits of close and open ranges, because either can be made to work well with due care. Like many other domestic appliances kitchen ranges are often "made to sell," without much consideration of their practical requirements, and I know of no pattern that is thoroughly good. Perhaps the increasing competition of gas cooking apparatus may call fuller attention to the principles of coal fire ranges, from which the public may benefit.

As to the boilers, you have published the advice of the highest authorities, to the effect that each one should have a safety-valve on it, and that copper boilers are safer and more efficient than iron ones. Let me add the recommendation that instead of having circulating pipes only 1 in. or even ¾ in. bore, they should be at least 1½ in., which would allow much freer circulation and so supply hotter water and tend to avoid freezing up. Every boiler should also have a mud-pipe and tap to rinse the sediment out of it.

I hope the above hints may be of some service in their ultimate object of tending to prevent black fogs and murky air; and since the ladies feel these unhealthy annoyances and the incidental damage to curtains, &c., even more than we do, may I urge those who read this to each do her share in economising coal and preventing smoke from domestic fire-places and kitchen ranges.

Feb. 14.

J. CORBETT,

Engineer to the Manchester and Salford Sanitary Association.

## SENTEIN MINING COMPANY.

SIR,—Will you permit me through the *Journal* to offer a few remarks on Mr. Green's letter, dated Feb. 1, replying to "Dissatisfied Holders'" letter in the previous issue? A few facts given in a plain way will be likely to make matters properly understood. Your readers cannot go far wrong if they take the first annual report read at the meeting in London in January. The report states that "at the end of June, 1879, one set of jiggling machinery was completed and put to work, and a second set afterwards added, which are now capable of producing 30 tons of silver-lead ore and 45 tons of blende per week." (300 tons in four weeks.) During the five months from June to November upwards of 500 tons of dressed silver-lead ore, and from 700 to 800 tons of blende, have been produced, notwithstanding the great inconvenience and disadvantage of having to teach the native labourers the work of ore dressing, with which they were entirely unacquainted. The above is the result of my self-acting jiggers and those made by Capt. John Edwards on the mine. Mr. Green wishing to have data before believing that 300 tons of ore a month was returned, shows that he has never read the report above alluded to, or wilfully ignored it. If he will refer to the above paragraph he will see that in five months between 1200 and 1300 tons was sold; the 1300 tons realized 4806l. 12s. 9d., and the labour cost for dressing was only 912l. 10s. 7d. Upon the face of this, Mr. Green states that the labour costs were so heavy that the directors found that to make it pay they must have new machinery.

This certainly is a very rash and questionable statement, as will be found by referring to the balance sheet. It will also be seen how far he was correct when he stated the blende would not pay for freight. The directors were so satisfied with the dressing machinery I supplied them, and that made by Capt. John Edwards on the mine, that they decided to erect more, and after my visit to the mines I prepared plans which were approved of. In the meantime Mr. Green turned up, having had an interview with some of the directors. The result was Mr. Green went on the mines while the managing director was in Paris, and condemned all the machinery and what he (the managing director) had done, after which the company sent me 50l. for my plans, and gave Mr. Green orders for what he recommended.

Now it would be interesting to know what this gentleman has done for the benefit of the shareholders more than tickle their ears with good things they may never realise. He goes on to say that last month they returned 600 tons of stuff, and that he ("Dissatisfied Holder") would not have had an ounce more ore if the old tools had been kept to work. Now the old tools had to be worked, the new machinery proving insufficient to return the 600 tons of ore.

The company's expectations were considerably raised by Mr. Green, by what they were led to expect from his new additions. Previous to his going to the mine there was at work self-acting jiggling machines, containing 18 plungers, three crushers, one stone-breaker, all worked by five water-wheels. If I am rightly informed, there are added to the above by Mr. Green, so called improved, 40 plunger jiggers, two large crushers, one pulverizer, and two water wheels. Now all this machinery set in motion should show a good return on such an outlay. How much ore has there been sent to the market since Mr. Green entered the mine? I am told on unimpeachable authority that the company are so dissatisfied with what has been done by Mr. Green, that they have cut off 500l. for useless goods.

I am further informed all the Englishmen working at Sentein Mine have left on account of the dissatisfaction existing there, not only in the dressing department, but also where the ore is broken.

Truro, Feb. 12.

FRANCIS DINGEY.

## RUBY AND DUNDERBERG CONSOLIDATED MINING COMPANY.

SIR,—In last week's *Journal* is a letter from me, in which I desire to correct an error. The weekly profit being realised by the Ruby Company is stated as 84,000; it should be \$4000. The prefixed 8 should have had two strokes through it, indicating dollars, or about 800l. sterling, or 41,600l. per annum; or, as I called it, about 15 per cent. per annum upon the entire capital of the company. "One Largely Interested," writing last week, may be so as a bear but cannot be so as a shareholder or he would not be in such ignorance of the progress, position, and prospects of the company as to refer with perfect complacency to "Scrutator's" letter as "now showing us our position;" nor would he accept such garbled statements as reasons for the suggestion he makes of largely reducing the nominal value of the shares if it really was true that, as he suggests, he was a large shareholder. Why if he really had an interest in the company did he not raise his voice in the scheme he now puts forward at the time the company was reconstructed? No such scheme was ever mooted at any meeting or, I believe, even to the directors, and the time has now passed for such an absurd suggestion. It would be much more to the point if "One Largely Interested" was to suggest that the company should dispose of one or more of their valuable out-lying mines, to be worked by a separate company, a scheme which I believe would meet with the support of all who are "largely interested" in holding, and not bearing, Ruby shares.

Any shareholder, or anyone desirous of becoming one, can have no difficulty in obtaining information as to the actual work being done at the mines and furnaces, where steady and most satisfactory progress is being made, and where a very substantial balance over expenditure, week by week, is being realised that will soon make

itself felt. There is every probability that the Ruby Company will prove as valuable a concern as the Richmond Company; it has more mines, with a larger area, than its great neighbour, and looking at the immense difficulties overcome successfully by the board, I have every confidence that the management will be found fully equal to the much smaller difficulties of piloting a flourishing going concern to the object steadily aimed at—good dividends, and consequently high prices for our shares.—London, Feb. 17. SHAREHOLDER.

## EUREKA (NEVADA) MINING DISTRICT.

SIR,—I have the pleasure to forward you a few notes of operations at this mining centre, which, doubtless, will be interesting evidence of the progressive work constantly being performed there. I have culled my remarks from the *Eureka Daily Sentinel*, under date Jan. 26:—

There are hundreds of good mines on Prospect Mountain and the surrounding hills, which, if worked by experienced miners, could be made to pay more than \$4 per day. Many of them could be leased on favourable terms. We have one in mind now. It is the Grant Mine on McCoy Hill. Some time ago Messrs. Jerry McMahon, Gus Peterson, M. Conner and John Cuff secured a lease of the mine. They worked it to good profit, but as the warm days of the past few weeks has revived the desire to travel, and as Bob Waters and brother had a liking for the looks of the mine, they sold out their lease to the Waters Brothers. The mine remains in the hands of the lessees for ten months longer, and they must have great faith in its future yield, if we judge by the price the Waters boys paid the original lessees of the property. The Grant ore has always been of high grade, and we understand that its yield promises well from the present outlook. Jerry McMahon and his associates are good miners, and we hope they will get hold of some other property in this district.

Jim Kyle, Angus McCaig, Billy Stinson, and a couple other solid Ruby Hillers are owners in the Lulu Mine at the head of the canyon above that town. A gang of men have been kept as constantly at work as have the employees of the Richmond or Eureka Consolidated for many months. The scene of their labours now is from a drift on the 100 ft. level. From that level a drift was run in a westerly direction under the mountain about 250 ft.; thence one was run south in favourable matter, but where the hope of a big thing is now centered is the north drift, which bears towards the Grant Mine. The gentlemen certainly display a good deal of pluck, and we hope they will reap their reward.

Owing to the impure air in the header of the Eureka Tunnel they can work but one shift in 24 hours at the present time, but a change for the better in this respect is evident within the past few days. This is accounted for by the change of formation. The tunnel is now in 1810 ft., and the head of the tunnel is upwards of 1000 ft. below the surface. The ore indications are more favourable at the present scene of labour than they have been for the past 300 ft. They are out of the shale entirely and are working in a mixture of clay and spar. We should not be surprised if the next deal in mining stocks along the Base Range was in that of the Eureka Tunnel.

Maurice Hartnett placed upon our table last evening a specimen of rich ore from the Industry Mine, which is heavy in lead and silver. The industry has never shown any galena in its veins, and the indications developed by recent workings are highly flattering for future prosperity to the holders of the property.

EUREKA.

## ORGANOS GOLD MINING COMPANY.

SIR,—Of all the gold mining companies lately floated none hold out better prospects than the Organos, in Colombia. There are only 15,000 shares, no promotion money. Every penny will be expended upon the property, and a dividend will, no doubt, be paid this year. The shares are scarce, at a premium, with a probability of rising quickly to a higher one. I look for great results next year, and consider that there are few gold companies whose future prospects will compare with Organos.

Samples of the lodes assayed by the Frias Mines assayer will give some idea of their richness. An average sample of north vein gossan and quartz roughly picked at time of breaking No. 2 lode, gave 14½ ozs. of gold to the ton, and samples from other places varied from 1½ oz. to 4½ oz. of gold to the ton. An experienced mining engineer who has inspected the two principal lodes, says of No. 1 that there is scarcely a piece of quartz belonging to this lode of the mineral left by the Spaniards that does not contain visible gold; large quantities can be had on the spot already broken ready to be stamped, and can be easily conveyed to the stamping mills. Its assay value is 2 to 14½ ozs. of fine gold per ton. This lode lies near the surface, and a very large portion can be extracted at a very small cost and rapidly. The ground in sight is so extensive that it will afford a long number of years' working on a large scale. And he states that No. 2 lode contains veins of quartz very rich in quality, also a vein of soft ground very abundant in loose gold. Here also the former miners left many heaps of mineral already extracted, having much visible gold, which when dressed will yield very large profits. This lode is also soft and easily broken, consequently immense quantities can be extracted at a very small cost.

London, Feb. 14.

INVESTOR.

## INDIAN GOLD MINES, AND THE LOCAL MINE LAWS.

SIR,—The question of mining leases in the Wynaad and Neilgherry being one in which a large number of British capitalists are at present interested, the subjoined Government notification which has just been published in India, regarding the terms on which lands for mining purposes will be granted will be generally useful. It will be seen that the State conditions therein are certainly not less onerous than they are in this country.—Feb. 15. T. A. R.

## MINING LEASES.

It is notified for general information in accordance with the decision of the Secretary of State in his despatch, dated March 25, 1880, No. 35, published in the Fort St. George Gazette, dated June 15, 1880, that the right of the State to metals and minerals is fully reserved in all waste lands the property of Government. The State asserts no claim to minerals in estates held on Sanad of permanent settlement or in land held on title-deeds hitherto issued under the Waste Lands Rules, in which no reservation of the State right in minerals is made, and the Jenm title in Malabar will be held to include the right to minerals. In future sales and leases of waste lands for agricultural purposes, the full right of the State in mines and minerals, and the right of access and other reasonable conveniences for working them on behalf of the Government or the assignees of Government will be expressly retained.

Persons desirous of obtaining permission to mine for gold on Government waste land in the Wynaad or of the Neilgherry Hills should apply for mining leases to the collector of Malabar or the Commissioner of the Neilgherry as the case may be, specifying distinctly the situation of the land within which it is proposed to mine, and its boundaries as accurately as can be stated, together with its estimated area. Every application should be accompanied by a rough sketch of the tract applied for, or the approximate position of the lot required to be marked on the survey plan. No such lot shall exceed 30 acres in extent, nor will more than 30 acres in all in one or more blocks be given to one and the same applicant; the breadth of each lot shall not be less than 70 yards. Applications will be dealt with in order of receipt by the collector or Commissioner.

On an application being accepted by the collector or Commissioner, the lot or lots will be durably demarcated and surveyed at the cost of the applicant, to whom a lease in the prescribed form will be granted on condition—1: That the lease shall be for a term not exceeding 20 years.—2: That an annual rent of 5 rs. per acre or portion of an acre shall be payable in advance by two half-yearly instalments, by Jan. 1 and July 1 in each year, the first payment to be made on the date of the execution of the lease for the then current half-year, and thereafter on or before the first day of the next half calendar year.—3: That within three months from the date of the execution of the lease, not less than five labourers per acre shall be regularly employed during the ordinary hours of labour on bona fide mining operations on each block in such manner as the Government may approve. Returns of the number of labourers employed per diem shall be sent in to the collector or Commissioner at the expiration of each month.—4: That the lease shall not be sub-let or assigned without the consent of Government being previously obtained.—5: That the lease shall be liable to forfeiture on failure to observe either of the conditions specified in clauses 2 and 3, or for any breach of clause 4, the Governor in Council being the final arbiter as to whether the conditions of the lease has been duly observed or not.—6: That the lease shall be renewable at the lessee's option on such terms as the Governor in Council for the time being may settle at the expiration of the original lease.—7: That during the term of the original lease there shall be no liability to any royalty or other tax in addition to the rent specified in clause 2, except in accordance with the provisions of the Local Fund Act, No. 4, of 1871 (Madras), and with the further exception of any taxation which may hereafter be found necessary to provide at the expense of the lessees, the cost of such



special police, communications, water-supply, sanitation or other similar administrative arrangement as may, in the opinion of Government, be dictated in the interests of the local community immediately or directly affected by the results of the lessee's operations.

Without the written permission of the collector or Commissioner previously obtained, the land applied for must not be entered upon, nor operations commenced. Waste land required for purposes connected with mining operations, but not for actual mining, will be granted on cove or lease at the same rate per acre and under the same conditions as land granted for mining—clause 3 as regards the employment of labourers excepted. No lessee or grantee of any block leased or granted under these rules for mining or other purposes shall divert any water-course beyond the limits of the block leased or granted to him, and all water running waste on such blocks shall be returned to its natural channel within the limits of the same block. Failure to observe this condition will entail forfeiture of cove or lease.

#### THE CAPE COPPER MINE.

SIR,—I think the suggestion of a dealer to sub-divide the existing 71 into 11 shares a most excellent one. The original subscribers to the company may be well content with the existing state of things, but those who have paid 41*l.* to 43*l.* for their shares naturally would gladly see an improvement in their capital value which is so fully warranted by the dividends paid. The latter would also gladly see less money placed to sinking funds, &c., and a little more distributed. It is all very well to think of our posterity, but what has posterity done for us? Besides, are there not reserves enough in the mines themselves? Even guineas for dividends instead of pounds would be most acceptable to myself and doubtless to many others.

London, Feb. 16.

A. W.

#### THE ROYAL SCHOOL OF MINES.

SIR,—I crave a few lines to draw attention to the Royal School of Mines. For many years it has been the practice to give, during the winter months, a series of lectures on chemistry, natural history, mineralogy, &c., to working men in the theatre of the above institution, in Jermyn-street. These lectures have always been well attended, and Professor Tyndall, in one of his works, has alluded in glowing terms to the patient attention and general interest exhibited by working men at these lectures. It is hardly necessary to say that the great bulk of working men so interested do not live in the neighbourhood of Jermyn-street, and many have to make long journeys in their laudable endeavours to improve their minds. Under these circumstances one would expect that if any alteration were made as to these lectures it would be in the direction of increasing the facilities for hearing them. But, Sir, what will you say when I tell you that the Government, instead of increasing the facilities for hearing these lectures, have caused some of them to be delivered at South Kensington, where there is less accommodation, and, from its inconvenient situation, many cannot attend?

Last evening, at Jermyn-street, when Mr. Warrington Smyth delivered his last lecture on Mineralogy, he announced that the next course would be delivered by Prof. Goodeve, at the Physical Lecture Theatre, South Kensington, and that, in consequence of the smallness of the room, only 150 tickets could be issued. Loud were the cries of "Shame!" at this announcement. Is it thus that the Government should treat the intelligent working classes?

I fear I have already trespassed too much on your space. I trust this letter may cause attention to be given to the matter by those friends of the working classes who sit in high places.

Hornton, N., Feb. 15.

G. R. CROXFORD

#### A MINES REGULATION BILL FOR IRELAND.

SIR,—Referring to your remarks in the *Mining Journal* of last week, I may say that my opinion is that the cause of the great depression in Irish mining is not the excessive dues with which the mines are loaded; on the contrary, the royalty demanded by Irish landlords is not, in many instances, half what we have to bear in this country, and I fail to see the justice of your Schull Correspondent's outline of the Bill said to be preparing to lay before Parliament. It would be equally as just to hand over the land to the Land League at Griffith's valuation as to compel by law a landlord to hand over his mineral property to an individual or company at a rate which he considered quite inadequate. That Ireland is a splendid mineral country cannot be denied, and its present neglected state is much to be deplored. Reckless and injudicious use of the capital applied to mining purposes in the past is the true cause of the depression, and no district in the habitable world has suffered more in this respect for the past 40 years than the Schull mining district.

Glasgow, Feb. 16.

AN IRISH LANDLORD.

#### THE CORNISH BANK LIMITED.

SIR,—There are one or two mistakes made in last week's *Journal* by your Cornish correspondent which should be corrected. Your correspondent says the dividend in the Cornish Bank was 10 per cent. This is not so; the dividend was at the rate of 5 per cent. per annum—not 10 per cent. This bank cannot divide more than 5 per cent. until the reserve amounts to a certain sum not yet arrived at.

Again, the writer says that out of the profits 500*l.* was awarded to Mr. Robert Tweedy. This is not so; Mr. Tweedy was merely re-elected managing director at the meeting, at the same salary as before—viz., 500*l.* a year. The directors were awarded 500*l.* for their services since the formation of the bank.

The decision of the Master of the Rolls that Sir F. M. Williams's estate is liable for 4*s.* in the 1*l.* seems to me nothing but equitable.

READER.

#### NEGLECTED SHARES—EAST ROMAN GRAVELS AND DON PEDRO.

SIR,—Although it is gratifying to observe the way the public invest in new companies there are many shares at absurdly low prices in the market that are well worth picking up and will ultimately pay. I speak more particularly of two—East Roman Gravels (formerly West Tankerville) and Don Pedro Gold Mining. Let any reader watch the genuine and satisfactory reports of the agent of the East Romans, regularly printed in the *Mining Journal*. The sampling is now 40 tons of lead ore besides blende per month, which leaves a profit, and if lead were at its proper and normal value would give 10 per cent. dividend on the capital. As the mine deepens the lode becomes longer and more productive. As to Don Pedro, here is a mine with all the necessary machinery erected, levels driven, and although passing through a period of depression may at any time take a turn for the better and pay the handsome dividends it did a few years past.

A SUBSCRIBER.

#### THE NEXT MINING SUCCESS.

SIR,—The present year opened with favourable prospects for mining enterprise, and the gleam of sunshine which sparkled on it has increased in strength. For a time lately it seemed as though nothing short of India on the brain would suit the requirements of the investing public, but a subscription of about 3,000,000*l.* sterling to develop these distant gold fields seems to have cooled for the time this particular rush, and calmer judgment sends the wise ones back to "hedge" their possible losses by investing in equally legitimate mining in their own country, where experience tells them they may gain solid advantages as well as wealth.

The year is yet too young to chronicle any extraordinary success in mining, but as the spring and summer advance there are many good mines which will not disappoint the sanguine expectations formed of them. Noticeably amongst these I may mention West Lisburne, a new undertaking in one of the richest silver-lead districts in Cardiganshire, near to and on the same lode as the celebrated Lisburne Mine, which has already paid its shareholders 605*l.* 10*s.* per share in dividends, and is at the present moment apparently as rich as ever. West Lisburne is already a proved productive mine, and was making good returns when the last working ceased, through the death of the late proprietor, whose affairs getting into litigation the mine has suffered some few years enforced idleness, but was lately secured by a company, who have already given tangible proof of their earnestness by the vigour which has characterised their commencement

of operations. A powerful engine has been purchased and paid for, and is now in course of erection on the mine. This will speedily fork the mine to its present greatest depth—46 fms.—when hundreds of fathoms of backs, estimated to yield a high rate of silver-lead ore per fathom, will at once be laid open to take away, while the sinking and driving will be resumed under circumstances which could hardly be more desirable.

It is seldom a new undertaking of this description is launched under such very favourable circumstances. The previous owner expended some 14,000*l.* in sinking four shafts, driving levels, and, in fact, not only completing all the necessary preliminary work for so large an undertaking, but actually proving and leaving the mine a rich and productive one for the benefit of his successors. These important advantages, taken in conjunction with the fact of West Lisburne being on the identical Lisburne lode which has proved so wonderfully prolific, justify me in bespeaking for it the title which I head this letter.—London, Feb. 17.

LYNX.

#### MINING IN CARDIGANSHIRE REDIVIVUS.

SIR,—We have not heard much from this district lately, and, therefore, it was with pleasure that I learnt that Goginan Mine, which is one of the deepest in Cardiganshire, is about putting on a new existence, and it is to be worked again vigorously, and even still deeper. I wish the adventurers every success. The late frost has retarded operations, but I expect we shall soon hear something good from the adjoining mines to the Goginan. The Bwlch stands in the centre of a grand mineralised zone, and sooner or later the investing public will wake up to its true intrinsic value. Independent of other points the drive on the slide is progressing, and I have seen solid ribs of beautiful silver-lead ore—in fact, leaders; and besides this flashes of ore are coming in. Where there are such leaders there must be a receiver—or better said, a deposit—and experts with whom in my rambles I have spoken to give their opinion that they are nearing the third deposit of ore on the south lode. Hundreds of thousands sterling value of ores have been sold from this mine from a shallow depth. The mine is as good to-day as it ever was. The north parallel lode on a similar slide gave to the fortunate adventurers immense profits, and if it is again worked I hope to have a share in it. There is a mine east of the Lisburne called the West Lisburne; here you have lodes which you can stand on the bank and play pitch and toss with. You can throw and knock out mineral—in fact, the great Glog-fach lode, which has returned millions sterling, and as history repeats itself, so will this mine make a mark.

Investors do not see this until it is too late to get in at a reasonable figure. Some short time ago I was on this property, which I had seen before, and I was surprised to see the change from stillness to activity. The clank of the blacksmith's hammer sounded harmoniously to many a honest worker, who knows that work means money, and money brings bread to the many. As the season advances it is to be hoped that some of the investing public will take a trip into Wales. There are good hotels, splendid scenery, and as good mines as any in the world if capitalists would only give them a chance, whilst millions sterling are subscribed for foreign ventures. If a few thousands in Wales generally does not give hundreds of thousands at once there is dissatisfaction. Besides the mines named there are many I have seen which are languishing for want of means, and it is sad to think about it, since lead, although neglected at present, cannot be replaced by bank notes, and is sure to come to the front again; it is a necessity, and as such let none despair.

RAMBLER.

#### EAST WHEAL ELLEN COPPER MINE.

SIR,—In the *Journal* of Jan. 15, in reference to the above company, you stated "Mr. Bawden is returning the deposits." Up to the present he has not done so in my case, although on Jan. 14 he wrote promising to do so "in due course." In answer to a further request he writes on Feb. 2—"A circular will go out next week to all shareholders giving them the option of withdrawing from the concern or otherwise, when your amount (12*l.* 10*s.*), together with all others who choose to withdraw, will be remitted." The circular referred to has not been received up to date.

After Mr. Bawden having retained the deposits nearly eight months without affording shareholders any explanation, and the letter of Mr. Tweedy, Cornish Bank, Truro (see *Journal* of Jan. 8), who stated "we have had no account opened with us in the name of East Wheal Ellen (Limited), and we hold no money for the use of any such company," I certainly think the "option of withdrawing from the concern" will be my course. With a view to united action, I shall be glad to hear from any others who may be similarly situated. The protection of investors and the interests of legitimate mining are my apology for troubling you in such a small matter. JOHN HILL.

Allendale, Northumberland, Feb. 17.

#### LADY BERTHA MINE.

SIR,—I notice in last week's *Journal* "A Shareholder" writes about Lady Bertha Mine, and I am glad to add to his letter my quota of information. I had occasion to be at Plymouth last week, and went on to Tavistock, and thence to the mine, where I found Capt. Neill just going underground, and I accompanied him, going through the 10 and 20 both east and west. In addition to the shaftmen there were three pares of men in three different stopes breaking mundie and copper, and almost any quantity of the former can be raised on the completion of the hauling machinery, which I was informed would be ready to start early in March. The plunger pole is fixed at the 20, and it was expected the 30 would be forked in a couple of weeks, and the bottom of the mine (53) by the end of March.

Everything about the mine "looks like business," and taking into consideration the splendid water-power by which the whole of the machinery is driven, the apparently unlimited backs and stopes of mundie now standing, to say nothing of the copper, I have no hesitation in assuring the shareholders that the result of my visit confirms all reports that Lady Bertha is a very valuable property.

Queen Victoria-street, Feb. 17.

J. W. S.

#### GREAT WEST VAN MINING COMPANY.

SIR,—As a large holder of ordinary shares in this mine, I was induced to take up my proportion of the 5282 preferential 10 per cent. 2*l.* shares, created at an extraordinary general meeting held in February, 1877, in consequence of representations made of the highly favourable condition of the mine, and its still more encouraging prospects contained in a circular dated March 14, and signed by the Chairman of the company, and accompanying the notice of the proportion of shares that were due to me as a holder of ordinary shares, on which I paid 10*s.* per share deposit and 10*s.* on allotment. On July 3, 1877, I received a notice from the directors, Messrs. Gundry and Wilson, that an execution had been placed on the mine for sundry claims, and only 1109 of the aforesaid preferential having been subscribed for, and on August 9 following, I am informed by the provisional liquidators that they have made a final call of 1*l.* per share on these preferential shares, and steps are being taken to reconstitute the company, by which the interest of the preferential shareholders will be provided for. Before paying this final call I made enquiries, and found the company to be in a hopeless state of insolvency, and the circular issued on March 14 accompanying the invitation to take up these shares contained misrepresentation.

Again, on August 14, 1877, follows another circular, before the ink is scarcely dry, making the final call, an intimation is made that it is intended to confiscate the ordinary shares by allotting one fully paid share between every two ordinary, and two ordinary for every one preferential, and to form a new company, to be called the West Van. Having paid what I considered sufficient, I took no notice of this document, but I am now further informed by a notice dated January 28, 1881, signed by the official liquidator of the said company, James Waddell, that the Master of the Rolls has appointed March 2 to settle the list of contributors of the above-named company, and that I am included in such list for the final call on my preferential shares.

Now I should be glad to know through your columns if any of the 1109 preferential shareholders mentioned in the notice of July 3,

1877, have also received a similar form from the official liquidator that like myself have not paid the final call, as I shall be prepared to make common cause with them to resist this flagrant demand. No accounts of any kind have been rendered for upwards of three years, showing in what manner the funds arising from these preferential shares have been expended, &c.—Feb. 12.

A VICTIM

#### HERODSFOT MINE.

SIR,—It is very gratifying to find a great and important improvement in this mine in the deepest level, the 215. In the 205 the old company had a run of rich ore ground for 85 fms. in length. This will, no doubt, prove the same in the 215, where they can drive 5 or 6 fms. a month, thus opening about 50 tons of lead ore per month in addition to their present raisings. Their sale of silver-lead ore for four months will be about 220 tons. The engine-shaft being now on the lode, they will be able to sink another level to the 225, and open up the ground much more rapidly than they have been able to of late. The mine never looked so well since the present company commenced working. There will be no call at the meeting this month, and a profit will be shown at the June meeting. This mine has already paid about 80,000*l.* in dividends. There is only 8*s.* 9*d.* per share paid up, and no further outlay is likely to be required.

Liskeard, Feb. 14.

INVESTIGATOR.

#### EAST CARADON MINE.

SIR,—It is somewhat satisfactory to see that the operations at this mine are to be extended on a larger scale, the result of which, I trust, cannot fail to be remunerative to the shareholders, and at no distant date. Good returns and profits have already been made, and, according to the official reports (which, by the bye, I think we ought to have more regular), the mine is improving; but I, for one, cannot understand why the shares, which about 12 months since, when the prospects were not so good, were dealt in at 7*l.* each, are now so ridiculously low. I should be much obliged if any of your numerous readers can inform me what are the real prospects of the mine, and how long it will take to cut the lode (called the South Caradon lode, apparently running into this sett), which about nine months since was reported would be cut in about eight weeks from that date. I assume such lode has not yet been cut. Any information will oblige—

ONE INTERESTED.

#### LADY BERTHA UNITED.

SIR,—Now that this mine seems to be getting into working order, and looks very promising for the future, may I ask, through the medium of the *Mining Journal*, if it is the intention of the board of directors to apply to the Committee, & the Stock Exchange for an official quotation in the shares.—Feb. 16.

A SHAREHOLDER.

#### MINING PROGRESS IN TAVISTOCK.

SIR,—Gunnislake (Clitters) Mine shares have been dealt in this week in the London market at 5*l.* and in the Tavistock district at 5*l.* to 5*l.* 5*s.*, and firm at these prices. Some very fine specimens of copper ore have this week been sent to Mr. Skewis's office, London, broken from the new lode, and worth 40*l.* per fathom, while the lode in the rise going up in the back is worth fully 35*l.* per fathom. In the 176 fm. level a cross-cut is being driven to cut the new lode discovered in the 200, and which if cut good, as is fully expected from the rise going up will lay open a splendid property, as it is in entirely virgin ground.

No mine in the district realised such a price for their ore as this mine at the last sampling. Thus, Gunnislake (Clitters), 385 tons fetched 2356*l.* 17*s.* 6*d.*, being an average of 6*l.* per ton, while Devon Great Consols 908 tons fetched 1603*l.* 8*s.*, or an average of 1*l.* 16*s.* per ton. An important improvement has also taken place in the 200 west; this lode was valued by the report issued a day or two since at 18*l.* per fathom, it is now worth 35*l.* This is an important point in the value of the mine, as it is also in new ground, and it is anticipated that the same run of ore will be reached in the level below in about a week or ten days. This last discovery will yield quite 30 per cent. of yellow copper ore.

The shares in the mine, compared with others in greater demand, ought to reach a high price, inasmuch as there are 11 known lodes, and only two have been worked on. Four cross-cuts are now being driven, in which a discovery may take place at any moment, especially in the cross-cut north, in the 152, towards a known lode. From these facts it will be seen that Clitters is an extraordinary property, and it may be safely affirmed that it will become the greatest mine in the neighbourhood. With such an extensive sett, and so strongly mineralised, it will pay at the present price either as a speculation or an investment. It must be borne in mind that the reserves are valued at 60,000*l.*

The new boring machinery at Old Gunnislake was put to work last Tuesday, which will speedily develop this splendid property. The lode in the end still holds good, and in a short time these shares will have a rapid rise. The discovery which they have made in the new shaft at Bedford United is a very valuable one, and is improving. From the best authority the lode is worth 40*l.* per fathom, composed of rich copper ore and arsenical mundie. A report (which will be found in another column) has just been made on the property by Capt. Skewis, of Tavistock.—Feb. 16.

B. W.

#### MINING IN THE ST. BLAZEY DISTRICT—No. VI.

SIR,—I agree with Capt. P. Rich that it would be worse than useless to attempt the re-working of the deeply wrought mines of the locality, which have been already comparatively or wholly exhausted. Take Fowey Consols, for instance, and if a single patch of ore-ground to the west of it (upon the lodes) yet remains it is at Anthony's, and that to a very limited extent—and the section to the east, known as Henrietta's. The ground has been thoroughly mined in both and all directions, from the centre to the circumference, most of the veins wholly giving up both east and west in a mineral bearing sense, and terminating in mere strings, leaders, and interlaminations, and ceasing to be lodes in the true sense. Westward more especially the remnants of the group of lodes were pursued to points beyond barrenness. And, therefore, let no one uselessly spend a shilling in trying to open up these afresh in the Pontsmill Valley, but rather to confine attention to the other objects found to exist (if any).

Fowey Consols has, indeed, been a richly yielding piece of ground, systematically, elaborately, and beautifully formed when studied in the light of its unbroken form. I have much enjoyed the study of it longitudinally by the side of a transverse section, and have been forcibly driven to the conclusion that here, indeed, is the perfection of design, presided over by the establisher of order, Heaven's first law, and that Butler and Paley were right. I trust no one ever saw, in a Christian country, an atheist in the person of a profoundly learned miner. I have met a few pretenders to the art, who late in life, when failing in their legitimate line of business, being gifted with good memories and extra verbosity, who had plagiarised enough of mining expression to deceive and mislead the unwary, the public, and the honest investor, talk and parade sceptically and atheistically, but I am glad to say that I never met a profound and able miner of such a cast, as they confess to clearly trace out the at first apparent paradox of seeing the finger of "Him who is invisible" constantly employed. True, it is patent that the first laboratory stroke in the formation of mineral lodes and deposits was the upheaval of the igneous through and amid the sedimentary strata, but then the operation was apparently not of chance, but of direction. The doctrine of Capt. Joe Rodgers, "Where ha is there ha is," is now pretty well discarded. For if in any department it is true that like begets like it is in the mineral kingdom. If the author of "Sermons in Stones" could have studied the subject in the light of such evidences we should have had something worth while from his genius.

Polharmon stands to the north-east of this great group of mines, and being parallel to the run of the main body of these great deposits, that held down so regularly and richly, the fact of this proximity, and the water finding its way from the old mine into this new ground, speaks volumes in favour of its probable analogous richness; and if there appears a group of lodes there also on a sufficient scale to justify the resumption of the working, the speculation would be



one of most inviting character. Hearing that Capt. P. Rich had cut some good ore there, I was much pained to find that he was not supported in the retention of Austin's engine, where it stood to keep him dry, and enable an effectual development. I have not had the pleasure of inspecting the Polharmon ground since mining began there, but have no doubt your readers would feel interested by Capt. Rich's description of it, and in justice to him and his ability and assiduity, I must add that the owners of the Rashleigh, Saul, Kendall, and Forster properties, may congratulate themselves on having an agent of Capt. P. Rich's great experience and ability. It would be well if all mineral ground were being placed in such hands both for the miner and landlord. Mr. Symons' description of the Rashleigh tin ground is very interesting.

Feb. 14.

## LADY ASHBURTON MINE.

SIR,—I have at request inspected Lady Ashburton Mine, which is situated in the parish of Callington, Cornwall, on the southern slope of the well-known and conspicuous Kit Hill. The granite here has protruded the clay-slate for an extent of three-quarters of a mile in diameter on the hill top. This set is in the clay-slate, near its junction with that upheaval of granite, which is highly stanniferous, and in what is called the "silver zone" of the district, containing Silver Hill, Silver Valley, Wheal Brothers, Wheal Sisters, Harrowbarrow, and Wheal Fortune (late Newton). The silver and copper lodes in all those mines, and those at the west in Wheal Florence (alias Callington Consols), pass through this set, the number of lodes being eight; there are also two cross-courses.

The engine-shaft is 15 fms. deep, at the bottom of which is a level westward on the lode 27 fms. in length. In the whole of that drift the lode averages about 4 ft. in width, containing a vein of silver ore 2 in. wide, giving a produce of 140 ozs. to the ton of stuff. The strike of the lode is about 25° north of west, and underlies southward. I think operations in that level should for the present be suspended, and that the engine-shaft should at once be continued 20 fms. deeper to test the lode at that depth. The shaft is on the lode from surface. I believe that the value of the lode will increase in depth. I consider that 15 fms. is too shallow to yield much riches. For that depth the yield is remarkably good. The engine is a 24-in. rotary, and used both for pumping and winding. When a more powerful engine is required for pumping this engine will, of course, serve for winding. The length of the lodes within the set is about 400 fms. There is an adit commencing near the southern boundary of the set, and driven northward into the rising ground 60 fms. I advise the prosecution of this adit into Langford lode, and then drive westward on its course, where it is likely good deposits of silver ore will be discovered, like those found in the same level in Langford set. This work is likely to pay for itself, and something more. The area of the set is 206 acres. I deem Lady Ashburton a well-situated mine for the yield of wealth, being surrounded with good and productive mines, including the Wheal Newton, and other silver mines above mentioned. I advise an energetic working.

Truro, Feb. 16.

## LOW-PRICE SHARES.

SIR,—Anyone carefully looking over the Mining Share List cannot fail to be struck with the low prices at which some shares are selling. It would appear some persons are guided entirely by the price at which the shares can be purchased irrespective of the number of shares in the mine. As an instance take the present price of East Crebor. With such good lodes as are reported to be opened up it must be evident to the most casual observer the price is low. One thing almost certain; there is no chance for a further fall in the shares, and I venture, therefore, to predict the shares must have a good rise, and that are long to more than double their present quotation. Another cheap share is West Crebor; the prospects here are exceedingly good, and it is undoubtedly a first-class speculation, especially as it is stated to contain the Bedford lode; and so far as position goes, I really cannot tell where you can find a better one, and should a lode be met with on sinking the shaft, which is more than probable, shares will have a great rise. There are many other low-priced shares worth buying, such as Prince of Wales, North Herodsfoot, &c.

OBSERVER.

## GOLD MINING ENTERPRISE.

SIR,—Gold is a very enticing word, and the projectors of the numerous gold mining enterprises are taking advantage of the love of gold which appears to be impelling a large number of capitalists to speculate in foreign undertakings. Very few of them will pay where extravagant prices are charged for the shares. I will venture to predict that not one in six of all the undertakings now before the public will pay the cost of the shares and working expenses. I feel sorry for those who have a little money to speculate, and who are likely to lose it.

Investors had much better invest their spare cash in home mines, which they can supervise, and which are much better subjects for investments than mines abroad, of which they can personally know nothing.—Feb. 15.

R. SYMONS.

## THE CALLINGTON DISTRICT, AND ITS MINES.

SIR,—The townspeople here are all astir. Mining has so improved of late that the look-ahead ones see it is time to be up and doing. This town is badly off for villa residences. Mr. E. Nicholls, the portreeve, has called a meeting of the inhabitants of the town to discuss the subject, it having in view the formation of a building society to erect villas to meet the wants of the public, which was numerously attended, when resolutions were adopted to form a company under the Limited Liability Act to purchase sites and erect buildings. More than 20 members of the meeting promised to take shares, but not stating the number. At their next meeting they will appoint a committee, and adopt further measures.

I am pleased to be able to say that the Redmoor and South Kelly Bray Mines are to be amalgamated with the Holmbush Mines. I believe this to be the best step this company ever took since its formation, as the lodes of Kit Hill Great Consols and Cornwall Great Consols pass through this property one mile from east to west, and adjoins both the setts. Redmoor, and part of Kelly Bray, is mineralised clay-slate, and the other part granite. There are four cross-courses, and a caunter elvan course also passes through it. Redmoor was formerly worked for silver-lead under the name of the Callington Mines, when there were thousands of tons of the ore returned, realising about 25 $\frac{1}{2}$  per ton, and three shafts sunk perpendicular—the north and south shafts 125 fms., and the count-house shaft 112 fms., below the adit level. All of the shafts went through the lode between the 70 and 80 fm. levels. The east and west lodes were never wrought on. Many miners applied for tin pitches 50 years ago, to my certain knowledge; but Mr. Percival Johnson, then managing director of the mine, and assayer to Her Majesty's Royal Mint, would not have anything to do but with silver-lead mines. Now, you will from this see that all the lodes coming through the hill are cut by the former working of this mine; and, as there is a recently substantially built whim-house near the south shaft, I would strongly recommend them at once to put a whim, case and divide the shaft, and clean up, so as to put men to work on the east and west lodes while they are repairing their engine-house and getting their engine and pitwork, as this part of the mine is dry to the 90, drained by the head of the Holmbush engine.

East of the silver-lead lode is the great cross-course, varying from 11 to 24 ft. wide. In Holmbush and Kelly Bray there was always large deposits of ore near this cross-course, and it is more than probable these lodes will be quite as productive. There are two other cross-courses further east, one 5 ft. the other 7 ft. wide. The southern lode in this property is the Wheal Florence copper lode, but the lead workings did not extend far enough south to intersect it, consequently it was never seen west of the great cross-course. The next is known as Vivian's, a tin lode underlying north, the same lode as they are returning their tin from at Cornwall Great Consols; this lode is a large promising-looking lode at surface, and is cut all the way down, but not driven on. The next is Johnson's lode, a south underlyer. In the bottom cross-cut to intersect the lead lode these two lodes are only 3 ft. apart, Johnson's fully 6 ft. wide; the mundic these lodes produce is arsenical. There is another tin lode farther

north that is a north underlyer; there was a great many tons of tin returned from this lode above the adit level some years since, but as there was no engine working at that time they could go no further after it. But at the 112, between the north and count-house shafts, I once worked a lead pitch where this lode crossed, and it was composed of arsenical mundic and tin only; in fact, it is the best tin lode I have ever seen. Then there is the Kelly Bray copper lode, that has been wrought on a little in Redmoor at the 70; it was holed on a course of ore that is the only communication below the adit level. I have no hesitation in saying these mines properly conducted are sure to pay dividends before next Christmas.

Feb. 16.

J. BUCKINGHAM.

## THE CALLINGTON MINING DISTRICT.

SIR,—Located as I am here for a few days I wish to record a few notes on this town and parish. Callington was a parliamentary borough, and returned two members till the Reform Act of 1832, when it was disfranchised, like Michell, Tregony, St. Mawes, Bossey, and numerous other towns of small population. The population of the parish in 1871 was 2173. The area of the parish is 2493 acres. Within the last few years Callington common, containing about 500 acres, has been apportioned between the landowners, inclosed, and cultivated. The church living is a rectory annexed to that of South Hill; joint yearly value 750 $\frac{1}{2}$ l., now held by the Rev. F. V. Thornton, M.A., who pays 100 $\frac{1}{2}$ l. a year to a good curate for doing the "duty" at Callington Church. The church was dedicated to St. Mary, Aug. 31, 1438. After the expenditure of 1000 $\frac{1}{2}$ l. in repairs the church was reopened on May 12, 1859. Nearly all the churches in Cornwall have been renovated within the last thirty years. In connection with the church there are new National day and Sunday schools. There is also a Grammar school and Wesleyan Sunday-school. Within the town there are preaching houses belonging to the Wesleyans, Wesleyan Free Church, Primitive Methodists, and the Plymouth Brethren. A preacher of the last-named society recently died in the pulpit here while preaching. I knew him; his name was Williams—a good man. There is a charity of 10 $\frac{1}{2}$ l. for the poor. Market on Wednesday; cattle market the first Wednesday in every month, the late fairs being abolished. The chief landowners are Lady Ashburton, Messrs. D. W. Horndon, A. Coryton, &c. The town is governed by a Portreeve and other officers, chosen annually. The present Portreeve is Mr. E. Nicholls—an honest lawyer! The magistrates of the Hundred of East hold their petty sessions on the first Thursday in every month at Golding's Hotel. The town is lighted with gas, but there are no waterworks, the supply of water being taken from a stream running through the town, and from pump and draw-wells. The town being situated on high ground a gravitation supply would be somewhat difficult in a very dry summer; and, indeed, the water which could be brought in is not attainable, owing to rights of holders. A pumping scheme alone can be made available, but such a scheme would not be remunerative to the promoters. So the idea of waterworks must, for the present at least, be abandoned.

The town, being situated several hundred feet above the level of the sea, is deemed healthy. The house property in Callington is cheaper, probably, than that in any town in Cornwall. The houses are generally rather mean; there are a few genteel houses in the town. Dr. Kempthorne's is the best—a three-storied house, having a granite front. The respectable portion of the inhabitants appear to have become awake to the necessity for increased house accommodation, and they have resolved, at a meeting held last evening, to form a building society for the erection of villas of about 25 $\frac{1}{2}$ l. a year rent; also houses from 15 $\frac{1}{2}$ l. to 20 $\frac{1}{2}$ l. per annum, and dwellings for the miners, who are likely to require residence from their employment in the mines around the town, at a suitable rent. The present houses are very irregularly built, little or no order having been studied in laying them out, or in their fronts, some being high and some low. There can be no doubt that 100 new dwellings would soon find tenants, and many of the existing miserable cottages would be vacated, thereby affording an opportunity for improving or re-building them. I was pleased to find that nearly all those who attended the meeting last night agreed to take shares, which, I believe, are to be 1 $\frac{1}{2}$ l. each, in a limited liability company.

I am much pleased to be enabled to report to you that the mining prospects here are very encouraging. This year of 1881 is likely to be one of great prosperity. Several mines in this parish now being or about to be worked are almost certain to become prizes—viz., Silver Hill, Lady Ashburton, Callington Consols, and Redmoor, besides the mines outside the limits of Callington, in Calstock, of which I purpose to write hereafter.

R. SYMONS.

Callington, Feb. 15.

## OBITUARY NOTICES.

SIR,—Death has been busily at work of late. Several of my friends have been taken away. Capt. Cornwall Henwood was a young man of good promise when I knew him as an agent in Great North Tolgus, near Redruth, in 1861. Professor White I knew well. Both these gentlemen died somewhat unexpectedly; the former suddenly. Several mining men have passed away in the same manner. I remember that Mr. Dunsford died very suddenly; also Mr. M. Greene and Mr. Endean, the father of the gentleman of that name now at Gracechurch-street. Mr. J. S. Courtney, late of Penzance, deceased, the father of the Member of Parliament for Liskeard, I have known ever since 1825, when he was a resident at Falmouth, and when he was an assistant in his father's school. About the year 1832 he removed to Penzance, and opened a day school there. Soon after that year he was taken by Messrs. Bolitho into their bank at Penzance, where he became their cashier, a post he retained, I believe, till his death. He was a good violinist and a genial companion. Most of the brokers whom I knew in London in the year 1847 are now off the stage, amongst them Mr. Bawden, Mr. Birdsey, Mr. Tredinnick, Mr. Lelean, Mr. James Lane, Mr. J. J. Reynolds, Mr. T. E. W. Thomas (who was killed at a railway station), Mr. Crofts, &c. Those who remain are become old men, like myself.

R. SYMONS.

## WEST CARADON MINE.

An encouraging report by Captain WILLIAM GEORGE, manager of Marke Valley Mine, having been made upon West Caradon, which he has just inspected, the principal heads of his remarks upon the property will be of general interest:—On the Menadue lode at the 27 there is a stope worth 1 $\frac{1}{2}$  ton of copper ore per fathom, but the level being full of orestuff the stope is suspended for the present. On Vivian's north lode at the 50 a stope is worth 2 tons of ore per fathom. At the 38 on this lode a cross-cut has been driven 2 fms. north from the part worked on by the former parties, and the north or main part of the lode intersected; in driving east at this point the lode is worth 2 tons of ore per fathom. Capt. George says this is an important point; the lode at present is running parallel with the old workings, and appears to have branched off for about 90 fms. to the east, and so was missed by the former workers; there will thus be a long extent of wholly undeveloped ground on this lode. There are two stopes being worked in the back of this level, each worth 2 tons of ore per fathom. On Gilpin's lode a winze has been sunk 10 fms. below the 27 in productive ground; the first 4 fms. the lode was worth 2 tons, and after that 1 $\frac{1}{2}$  and 1 ton of ore per fathom. Owing to the accumulation of orestuff this winze is suspended for the present. Capt. George says the driving of the 38 under this point is a good speculation, and one that would lay open a long piece of profitable ground. A stope is being worked in the back of the 17 on this lode, worth fully 1 $\frac{1}{2}$  ton of good quality ore per fathom. Capt. George says there has been a great deal of work done since operations were commenced, and the necessary preparations for getting the various workings cleared of orestuff are being vigorously pushed on. Two skip-roads are now permanently fixed—one to the 50 and the other to the 38. A whim-engine and boiler have been erected, and drawing gear arranged for both shafts, a house built, and a crusher is being fixed. Capt. George further says that he has carefully looked at the ore at surface, as well as that broken underground, and considers the quantity quite 100 tons. Capt. George also says there is a great deal of unexplored ground in the mine, and that the prospects are very encouraging, and he thinks the prospects further enhanced

by the fact that the mine can be worked dry nearly 80 fms. from below adit. It will thus be seen that Capt. George values the various points opened by the present company in the aggregate at 12 tons of copper ore per fathom. Considering that the mine has only been at work 11 months under the present company, the result is highly creditable to the manager, and must be gratifying to the shareholders. The company have up to the present moment called up 2250 $\frac{1}{2}$ l. only, and with this small amount, as Capt. George states, a large quantity of work has been done underground, and an engine, boiler, and other machinery erected at surface, whilst 100 tons of copper ore have been broken. Few mines have made such satisfactory progress in so short a period, whilst the prospects for the future are such that it is not unreasonable to expect that before long West Caradon will occupy an important position.

## REPORT FROM CORNWALL.

Feb. 17.—Matters in the mining share market have remained pretty much where they were during the last few days, with the exception of some individual mines, in a few of which there has been considerable improvement, while in others there has been an attempt to create a "scare," but with no permanent result. There is certainly no reason in the present aspect of affairs in any way to qualify the opinion we have confidently expressed, that we are now on the eve of a period of substantially high prices—prices at any rate which if not sufficient to produce inflation will be not only fairly but amply remunerative of legitimate enterprise. This of course applies chiefly with regard to tin mining. Copper is also more hopeful in its degree, and we may fairly expect to see a considerable revival in lead mining, while it is said that iron is likely to come to the front. The latter event, though much to be desired, is by no means so certain.

No doubt it may seem somewhat strange to a good many people that just at this juncture—immediately following upon the active revival of mining enterprise—so many discoveries of importance should be reported, and especially from localities which for some little while may seem to have been specially out of the running—notably in Devonshire. There is, however, really nothing remarkable about it, for it is simply an illustration of a point upon which we have again and again laid stress—of the wide breadth still existing in the western peninsula of practically virgin mining ground, evidence of which must always be afforded whenever any renewed period of mining activity sets in. It is a well-known fact, and one which adventurers would do well to bear in mind at the present time more especially, that the chief riches of our copper mines have been reached in comparatively shallow workings, and that there is no reason whatever why Devon Consols should be regarded as the last exceptional phenomena of this kind. Our tin mines make in depth, and at the greatest depth reached show no signs of exhaustion, but the contrary. It cannot be but that the same rule holds now with regard to copper that was found to work so marvellously in so many instances in the last century, and down to comparatively recent times—that a large proportion of the copper lodes worked on were of exceptional richness very near the surface. With the history of Devon Consols every one is familiar, and they are all familiar, too, with the fact that South Caradon and all its wealth was literally created by the stroke of a pick; but there are more remarkable illustrations even than these if we compute only the quantity of ore raised within a given time after commencing operations.

Mr. Edward Skewis has thrown out a hint that seems worth following up—the substitution of oil for candles in mines, which he estimates will effect a saving in Cornwall and Devon mining of 14,500 $\frac{1}{2}$ l. a year, besides the accessory advantages of extra illuminating power and smaller air contamination. It is quite certain that candles are not an economical method of lighting, whether we take into consideration the light they give or the extent to which they flare away to waste; and it is equally certain that the rapid development of lighting by mineral oils which has taken place of late years puts mining in this particular in a position of advantage which not long since it could not have expected to occupy. The only point that it seems to us requires consideration is, however, one of some practical importance. By the aid of the lump of candle clay the candles, as now used, may be placed in precisely the position most convenient for the miner's special object at any one particular time, and it is not quite easy to see how the same facility could be given by the use of lamps. For machine boring indeed, and many similar operations, we can quite conceive that lamps would be the best means of lighting to employ; but in their present form, at any rate, we do not see how they are to supersede candles altogether. However, the subject is one well worthy the consideration of practical men, nor is it by any means one of small importance.

The testimonial to Mr. J. H. Collins, F.G.S., takes a triple shape—an elegant carriage clock, suitably inscribed, an address with the names of the subscribers, and a purse of gold. The presentation of the clock was made at a public meeting at Truro, on Saturday, by Canon Rogers, President of the Royal Cornwall Polytechnic Society, that of the address and purse will follow, as it is decided to keep open the subscription list to the latest possible moment. There was no lack of eulogy of Mr. Collins's high personal merits, and of the many and valuable services he had rendered to the county in connection with mining matters, and with general science, by various speakers at the meeting, but these points are all so well set forth in the address that we cannot refrain from adopting it as our own farewell to one to whom Cornwall owes so much. The address runs thus:—We, whose names are attached to this address, desire to express our deep sense of the ability, untiring energy, geniality, readiness in imparting information, and unselfish devotion to the common good with which you have laboured to promote the industrial interests of the county during your residence of 13 years in Cornwall. We feel you have advanced the cause of science as lecturer, and subsequently as honorary secretary, to the Miners' Association of Cornwall and Devon, your connection with which society first brought you into the county of Cornwall; as secretary for five years to the Royal Cornwall Polytechnic Society, as secretary to the Royal Institution of Cornwall, as having commenced the arrangement of the minerals of the Royal Geological Society of Cornwall, and as public analyst for the county, while you have from time to time read valuable papers at the meetings of the Mineralogical Society of England, and the British Association for the Advancement of Science. Meanwhile your leisure hours have been devoted to other works of general utility; you have imposed a debt of gratitude on the public by your useful publications on mineralogy and mining, by the translation of the work of Prof. Moissanet on the lodes of Cornwall, by your microscopic examinations of sections of minerals, by the interest you have taken in the work of the Committee on Explosives, and by other valuable services. The hearty good wishes of all classes in Cornwall will follow you in the important situation to which you have been appointed in a foreign land.

## REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

The Liverpool Corporation have commenced the preliminary operations necessary at the starting of their large waterworks undertaking. The pipes for the water-main are now being conveyed along the Cambrian Railways to Llanymynech, will then be moved by the Potteries Railway to its terminus at Llanfyllodwell, where a capacious wharf is now being erected for their reception, as well as for the storage of the other necessary materials for the works. In order to facilitate the construction of their works the representatives of the Liverpool Corporation have entered into negotiations with the Oswestry, Llangollen, and Llanfyllon Highway Boards, with a view to construct a tramway along the roadside from Llanfyllodwell to Penybontfawr. The advantages of such a tramway to the Corporation are obvious, while the Highway Boards would not suffer, for the Corporation would give 10 $\frac{1}{2}$ l. per mile per annum for the right of construction and use, and would, on the completion of their works sell the tramroad to the board at a valuation. The boards, however, are inclined to be obstinate, and have fixed their charge at 15 $\frac{1}{2}$ l. per mile per annum as well as compensation for loss on account of the present traffic being diverted some 5 ft. towards one side of the road. For many years now a railway or tramway to Llanynog has been talked about and agitated for, but all the various schemes have fallen



through. Now here is one brought forward which would partially meet the case, as Penybontfawr is only some two miles from Llany-nog, and if the inhabitants of that important mining district, together with those of Oswestry, would only strike while the iron is hot the railway question would be solved. Mining men will remember with regret that it was the close boards who stifled the trade and enterprise of the district once before by putting down the traction-engines running between Llany-nog and Porthywaen, and it would be well if another opportunity of opening out the district were not allowed to be sacrificed by them.

A company has been formed under the title of the Sweeney Brick Company (Limited), to acquire and work the coal, clays, and minerals, and the mines at Sweeney near Oswestry. The company was registered on Feb. 4, with a capital of 5000*l.*, in 10*l.* shares. A colliery and brickworks have been carried on for many years at Sweeney with varying results, and we wish that the new blood may succeed in reviving the old works.

The workmen of the Llanberis Slate Quarries have not succeeded in obtaining Mr. Assheton Smith's consent to the scheme proposed by them as an alternative to his request to contract out of the Employers' Liability Act. Mr. Smith has also seen fit to withdraw his subscription from the sick club connected with the quarry.

The severity of the recent gale was so great that one of the carriage on the Festiniog Railway was blown off the line near Dephwyys. Fortunately no injuries were received, and the passengers assisted the officials in replacing the carriage on the rails.

"Llanarmon" in last week's Supplement sketches out for me a very extensive programme indeed, and it is one to which I cannot hurriedly consent, although, perhaps, at some future time I may embody in my report the information he seeks for. Let me, however, remind him that there are books upon the subject written by an abler pen than mine; for instance, "Metalliferous Mines and Mining," by D. C. Davies, and also the prize essay on "The Metalliferous Deposits of Flintshire and Denbighshire," by the same author. By-the-way, when is this latter to be published (?) as, I believe, one of the conditions was that it was to be published or returned within a period now elapsed. Perhaps the author could tell us, or rather will tell us, on his return to England.

**NORTH WALES, SALOP, AND CARDIGANSHIRE.**—The Carnarthen and Cardigan Railway Company are intending to extend their line from Llanyfyllid to Newcastle Emlyn. The landowners are in favour of the project, and there is no opposition to the Bill now before Parliament. The company intend commencing the line at the earliest possible date. The extension will be a great boon to Newcastle Emlyn and the district. Mr. E. O. Ferguson is engineer for the extension.

#### TRADE OF THE TYNE AND WEAR.

Feb. 16.—The coal trade in most branches has been dull during the past week; this has been caused by a want of vessels, the shipping trade having been much deranged by storms in the North Sea, and ice obstructions in foreign seas and harbours. The prospects for the steam coal trade are, however, now better, but this important trade will not be kept fully going until the Baltic and the north-eastern ports of Europe are reported free of ice. The shipment of gas coal by steamers has, however, been good during the past week; and, as all impediment in the way of the navigation of these rivers has been cleared, there has been a good demand for small and manufacturing coal for local consumption. The severe cold weather has also brought a good demand for house coal, and, as the coke trade is steady, the pits in Durham, as a rule, are fairly employed. The chemical trade has improved of late, and prices are somewhat better; there is a good demand for America and the Continent.

The award of the umpire in the case of the dispute between the Durham colliery owners and a party of the deputy overmen has been given. Those delegates who were members of the Durham Miners' Union were paid a lower rate of wages than the men who were members of a Union of their own. The umpire, Mr. Hinde Palmer, M.P., has awarded that the wages of the former shall be raised to the same scale as the latter.

The adjourned inquest on the Seaham Colliery disaster was opened again on Wednesday last, but the proceedings were only formal; the inquest was again adjourned until April 12. This course was adopted in consequence of a communication from Prof. Abel, who is engaged in making experiments with coal dust at Wigan. Prof. Abel had written to the Coroner, stating that the important results he had obtained rendered it highly necessary that he should carry his experiments as far as possible to completion before submitting conclusions thereon. When the inquest is resumed on April 12 it is expected that the Maudlin Seam will be reopened, and the remaining bodies recovered.

The question between the ironmasters and the North-Eastern Railway Company respecting mineral rates has at length been settled. As we have often noticed negotiations have been in progress some time, and a revised scale of charges has now been adopted, which it is expected will be satisfactory to both parties. The proposed Central Northumberland Railway has received a very large amount of support from the landowners, farmers, and tradesmen of all classes interested in the district through which the proposed line will pass. The support which the scheme has received is so general that its success must be ultimately secured. Influential meetings have been held at Newcastle, and also at all the important towns on the route of the proposed railway, and resolutions have been passed unanimously approving of the scheme. The people in central and north Northumberland are evidently in earnest about this railway; it has, indeed, become a necessity, although the land is very valuable in this county for grazing, and for all agricultural products, yet the farmers are not in a position in the northern and western parts of the county to compete with the foreign produce imported. In some districts coal, lime, &c., and also the produce of the land, is carted 14 miles, and there is little doubt that in some cases the cost of the conveyance from these farms of the produce to market is equal, if it does not exceed, the cost of rail and shipping foreign produce to the markets here. The formation of railways and tramways is, no doubt, a crying necessity in all agricultural districts in this county. In Durham the agriculturalists are in a much better position; the colliery railways and branch lines give much facility, with some exceptions, for getting manures, &c., and also for sending the produce of the farms to the markets. The formation of the Northumberland Central Railway will have the effect of opening out some very valuable beds of limestone, and also some fine seams of these coals, and ultimately there is little doubt that large tracts of land at present covered with heather will be brought into cultivation, or converted into valuable grazing farms.

The most important meeting on this question was held in Newcastle on Saturday, when there was a large gathering. Sir Charles Trevelyan occupied the chair. Present, Sir John Swinburne, Capheaton; the Mayor of Newcastle; Mr. Snowball, agent to the Duke of Northumberland; &c. The resolutions proposed were carried without a single dissentient, and there is little doubt that if the North-Eastern Railway Company decline to undertake the formation of this line the project will be carried out in some way, and when this is accomplished a more direct route by rail to Edinburgh and Glasgow will also have to be found.

The late severe storms by sea and land, and the exceptionally severe frost at home and abroad, have had considerable effect on many of the trades here, as the movements of large ships have been much retarded, but the engineering and some other trades have improved considerably during the past few months, and this is clearly shown by the fact that on the Tyne, Wear, and Tees a movement has been made by various classes of skilled workmen for an advance of wages, and in most instances they have succeeded in getting an advance. The engineers at Palmer's works and some others on the Tyne expect to be advanced this week.

The rise in the price of pig-iron in the United States, with a concurrent fall here, is expected to result in a revival of exports of iron from Cleveland and Durham to America. For the greater part of last year no shipment of pig-iron was made to the United States, but some small shipments will be made shortly, and it will depend on the course of the markets there whether shipments on a larger

scale will be made. At Middlesbrough on Tuesday there was a good attendance, and a better feeling prevailed. No. 3, however, could be got at 38*s.* 6*d.* for prompt delivery. Makers ask higher prices, and few of them are selling at present, and they expect that prices will improve as the season advances. The business done was limited. Warrants are 40*s.* 6*d.* Messrs. Connal's stock is 140,455 tons—an increase of nearly 3000 tons on the week. Their Glasgow stock is 522,000 tons.

The shipments of pig-iron are gradually increasing again. They amounted last week to about 13,000 tons. Welsh consumers are requiring more iron, and the demand for Scotland and the Continent is also improving. The demand from America this year is expected to be chiefly steel rails and blooms, and a fair trade has already been done on this account. The export trade in manufactured iron is improving. The deliveries last week were nearly 7000 tons; this included steel rails. The activity of the steel trade is increasing daily, and extensions to increase the output are pushed forward. The plate and angle trades are steady, and there is a slightly improved trade in bars and engineering work. Ship-plates are 6*l.* 15*s.*; bars, 5*l.* 12*s.* 6*d.*; and angles, 5*l.* 15*s.* Coal and coke steady.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 18.—The colliery owners in the Oldbury and Tipton districts this week quote forge coal at 8*s.* 6*d.*, and furnace at 9*s.* 6*d.* to 10*s.* per ton, with a good business doing. From Cannock Chase considerably less coal is now going to Lancashire than a week or two ago, since the arbitrary course taken by the Miners' Union in giving the masters notice that if orders from that part of the kingdom continued to be accepted the colliers would be forbidden to work has been largely effectual in stopping supplies. Consequently business is less brisk in the Chase. Agents of Yorkshire collieries quoted this afternoon in Birmingham 17*s.* per ton for blast furnace sorts, but supplies from North Staffordshire were to be had at less money. Northampton ironstone was priced at 5*s.* to 7*s.* 6*d.* per ton, according to quality. The raw and manufactured iron trade is without noticeable alteration on the week.

At the annual meeting of the Ironmasters' Association, on Thursday, there was a more cheerful tone prevailing than for some weeks past. Business, however, was flat, and prices, in sympathy with those of the northern markets, were weak. The recent advance in coal, though it is to some extent nominal, has added to the embarrassment of the trade by increasing the cost of production at a time when it is impossible to obtain any advance of prices. Smelters, who feel the pinch more than the producers of wrought iron, are consequently restraining their make of pig, and endeavouring to relieve stocks, which are rather heavy at present. With the exception of galvanised iron, common sheets and hoops, which latter are again in considerable request for the United States and India, manufactured iron sells slowly. In merchant bars and plates there is very little doing; but the enquiry for galvanised iron is active, and at a slight reduction from current rates a large business might be done. Australia, New Zealand, and the River Plate are specially good markets at present for this class of iron, and the enquiries from Canada foreshadow a good spring trade with the Dominion. On home account the principal business current is in foundry pig, axle, and girder iron. Prices are strong for sheets, foundry pig, and galvanised iron. In other descriptions quotations are more elastic. Marked bars stand at 7*l.* 10*s.*; unmarked ditto are at a minimum of about 6*l.*, and sheets at from 7*l.* 10*s.* upwards. There is no quotable change in pig-iron, and the rise of 1*s.* in ironmaking coal is not always realised.

To consider the mutual insurance scheme proposed by the Conciliation Board a conference of ironworkers' delegates, representing Staffordshire, Shropshire, and Worcestershire, was held on Monday at Wednesbury. In the end resolutions were come to that the employers' contributions should be equal to those of the workmen; that the contributions of the latter should for one year, experimentally, be 1*d.* per week, and the benefits 8*s.* per week in case of disablement and 60*l.* in case of death. The miners working under the Pelsall Coal and Iron Company (Limited) have requested the secretary of the coal trade of South Staffordshire and East Worcestershire to summon a joint representative meeting to consider the Employers' Liability Bill, with a view to contracting out of the Act.

The miners at many of the collieries in North Staffordshire are this week working at an advance in wages of 10 per cent. The North Staffordshire Iron and Coal Masters' Association have met and decided not to be bound by a resolution they came to on the 4th inst. touching united action, and the association now leaves each employer to arrange terms with his own workmen. At the same time the association expresses a wish that the advance may be 10 per cent. Many orders have been received in the district which would have been executed in Lancashire if the men had not been on strike.

Only one of the 24 miners killed in the late explosion in the Institute pit of the Whitfield Colliery, North Staffordshire, was insured in the Miners' Relief Society, and there are, therefore, 17 widows and 50 orphans left unprovided for. To relieve these funds are being raised at public meetings held for the purpose, and about 1000*l.* has been subscribed. At a meeting of miners' delegates, held at Stoke, resolutions were passed in favour of an investigation into the cause of the occurrence, and also of an enquiry whether the case comes within the Employers' Liability Act. The colliery itself remains pretty much as last week, with the exception of the setting on of about 40 of the unemployed men at the engine pit. All other parts of the colliery are flooded. The fatal pit itself has both its shafts filled up, and is likely to remain closed for some weeks. The fumes issuing from the small aperture left in one of the shafts have been tested under the direction of Dr. Angus Smith, Manchester, and found to contain carbonic acid hydrogen. This, though a non-explosive, is a most destructive mixture. The temperature at the bottom of the shaft when taken was 76°.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 17.—In the lead mining districts of Derbyshire business has been rather quiet, and the weather has been most unfavourable for many places where the mines are nearly open. The out-put is still far below what it should be considering the extent of the field; but so long as capital does not flow freely for the development of the minerals and the proper drainage of the land containing them, no material change for the better can be looked forward to. In the few instances, however, where efficient machinery and appliances have been put down, there success has followed. A comparatively moderate quantity of ironstone, considering the nature of the resources, is now being raised in connection with any of our ironworks, and more dependence than ever is now being reported in distant districts where the stone is obtained close to the surface and at a moderate cost. In pig-iron there has been but little change of late, and transactions do not appear to be on such a large scale as they were some time since. In manufactured iron, too, the demand is still of a moderate character. The Coal Trade has been rather active of late, owing to the strike in Lancashire, as well as to some other causes. Engine fuel has been in good request, and there has been a good demand for house coal as well, especially for the London Market, where prices have been especially high, but are now going down. Steam-coal has undergone no material improvement, being still comparatively quiet. A steady business, however, is being done in gas coal and coke for manufacturing purposes. The steelworks at Dronfield are doing well, and in addition to other orders there is one from India for the Oude and Rohilcund Railway.

In Sheffield business is good in most branches, and orders continue to come rather freely to hand, especially for heavy material. Steel rails are in as brisk request as ever, and the orders in hand are such as to keep the various works busy for some time to come. Armour-plates are being more extensively produced, and there is also considerable activity with respect to ship and boiler plates as well as sheets. In crucible steel more is being done and some more than usually heavy castings in it have been recently produced by one of the leading firms. In wheels, axles, and tires for railways business continues good, and there is also a heavy production of telegraphic and other wire. Most of the cutlery houses are poorly off for work,

and some of the principal ones are busy in the production of the best qualities of table knives, America, India, and some of our own colonies being still amongst our best customers. Some few orders have also been received from the Continent, despite the competition encountered from the German manufacturers, who produce a good-looking article at a lower price than the Sheffield makers, whose productions, so far as material is concerned, are of course far superior.

In South Yorkshire the Coal Trade has been good, but things are in a very unsettled state, and are likely to be still more complicated. Already there are upwards of 8000 men on strike, and in the course of a few days there will be a large addition to the number. They demand an advance of 10 per cent. on the existing wages, and this the colliery owners say they are unable to concede. Prices of coal have gone up, but this is in consequence of the state of affairs in Lancashire, and when the strike there is terminated coal will be as low, if not lower, than it has been during any part of the last six months. Not so much of late has been done with the Metropolis, from the Silkstone pits in particular, from the district. In thick coal, however, the tonnage sent away has been fully up to the average. Engine coal has gone off well owing to the strike in Lancashire, and it is as much as the Manchester and Sheffield Railway Company can do to manage the traffic, so great have been the requirements, especially of manufacturers.

**YORKSHIRE.**—Last year an Act (Skipton and Kettlewell Railway) was obtained for making a railway from Skipton to Threshfield, near Grassington, and this year it is intended to extend it about 18 miles to Aysgarth. The authorised line is being staked out, and it is intended to commence the works at the very earliest date. The district is entirely without railway communication, and is the largest area at present unaccommodated. The line goes within two miles of the celebrated Grassington lead mines, and it will open out generally the mines in the district. When the railway is constructed many companies should start along the route. At present the miners work on the sets at their own risk. The coal for smelting the ore has to be carted from 10 to 20 miles from the nearest railway station, and the ore has to be carted back, the cost of this cartage being 10*s.* per ton both ways. Mr. E. O. Ferguson is engineer to the line.

#### GOLD IN WALES.

In the Report of the British Association for the Advancement of Science (Swansea, 1880), just published, Mr. WILLIAM WHITAKER, B.A., F.G.S., of the Geological Survey of England, gives a list of works on the geology, mineralogy, and palaeontology of Wales (to the end of 1873), and it may interest the readers of the *Mining Journal* to peruse, in chronological order, an abstract of that which concerns the "Royal Mines" of gold and silver more especially:—

1698. ANON.—A Description of the Lead and Silver Mines worked in 1698 in the vicinity of Eskir Hir.
1700. ANON.—Old Lead and Silver Mines at Bwlchyr Eskir-Hyr. A Familiar Discourse or Dialogue concerning the Mine Adventure in Cardiganshire.
1700. WALLER, W.—State of the Lead, Silver, and other Mines in Wales.
1831. ANON.—Geological Facts and Observations, &c., on the Ancient Mines and Rich Minerals in the Interior of North Wales.
1839. BURR, F.—On the Occurrence of the Precious Metals in Great Britain.—Mining Review (4to), No. XIV., Vol. V.
1845. DEAN, A.—Notice respecting the Discovery of Gold Ores in Merionethshire, North Wales.—Report British Association for 1844.
1853. CALVERT, J.—Gold Rocks of Great Britain and Ireland . . . with a Treatise on the Geology of Gold.
1854. RAMSAY, Prof. A. C.—On the Geology of the Gold-bearing District of Merionethshire.—Quarterly Journal Geological Society, Vol. X.
1854. WATSON.—On Gold Mining in England.
1858. ANON.—"J. R. G." Letter on Gold in Wales.—Geological, Vol. I.
1858. ANSTED, Prof. D. T.—Letter on Gold in Wales.—*Ibid.*
1858. READWIN, T. A.—Letter on Gold in Wales.—*Ibid.*
1860. READWIN, T. A.—On the Gold Discoveries in Merionethshire.—Transactions Manchester Geological Society, Vol. II.
1860. READWIN, T. A.—On the Occurrence of Gold in Merionethshire. (British Association.)—*Ibid.*, page 511, and Chemical News, Vol. IV.
1860. READWIN, T. A.—The Gold Discoveries in Merionethshire.
1862. PHILLIPS, J. A.—Gold Mining, and the Gold Discoveries made since 1851.—Journal Society of Arts, May 16.
1862. READWIN, T. A.—The Gold-bearing strata of Merionethshire.
1862. READWIN, T. A.—List of Gold Ores from Merionethshire, North Wales, exhibited at the International Exhibition, 1862.
1862. SMYTH, W. W.—Gold Mining at Clogau, North Wales.—Mining and Smelting Magazine, Vol. I.
1863. CLEMENT, J. H.—Notice of Welsh Gold.—Proceedings Geological Association, Vol. I.
1863. READWIN, T. A.—On the Gold-bearing Strata of Merionethshire.—Report British Association for 1862.
1864. READWIN, T. A.—On the Recent Discovery of Gold near Bala Lake, Merionethshire.—Report British Association for 1863.
1865. HUNT, R.—British Gold, with especial reference to the Gold Mines of Merionethshire.—Quarterly Journal of Science, Vol. II.
- 1865.—READWIN, T. A.—The Recent Discovery of Gold at Gwynfynydd, North Wales. (British Association.)—Geological Natural History Repository, Vol. I.
1865. SALTER, J. W.—Notes explanatory of a Map of the Faults of the Dolgellau Gold District.—Memoirs of the Geological Survey of Wales, under the title Explanation of the Faults in the Gold Districts of Dolgellau.
1868. PLANT, JOHN and E. WILLIAMSON.—The Geology and Fossils of the Lingula-Flags, or Primordial Zone, of the Gold Districts of North Wales.—Transactions Manchester Geological Society, Vol. V.
1867. FORBES, D.—Researches on British Mineralogy.—Philosophical Magazine, Sec. 4, Vol. XXXIV. (Gold, Wales, p. 338.)
1868. FORBES, D.—Researches on British Mineralogy: II.—Philosophical Magazine, Sec. 4, Vol. XXXV. (Polytelite, North Wales, p. 171.)
1871. READWIN, T. A.—Notes on a Merionethshire Gold Quartz Crystal and some Stream Gold recently found in the River Mawddach.—Report British Association for 1870.
1872. VIVIAN, W.—Rocks: Do they Grow? (North Wales).—Transactions Cardiff Natural Society, Vol. III., Part I.

#### FOREIGN MINING AND METALLURGY.

The Belgian iron trade continues to present considerable strength, notwithstanding that the English markets have shown a less favourable tone. The Belgian construction workshops are overdone with work for the time; Couillet is working night and day. The rolling mills and ironworks have also little to complain of; on the contrary, they are so well off for work that there is no immediate prospect of a reduction of rates. Luxembourg pig has made 2*l.* per ton; Belgian Luxembourg pig, 2*l.* 4*s.* per ton; and Charleroi pig, 2*l.* 10*s.* per ton.

There is scarcely any change to report in the general tone of the Belgian coal trade. Industrial coal is generally firm, but the advance of the season has occasioned a little falling off in the demand for household qualities. The approach of spring naturally brings with it an inevitable reaction in the enquiry for domestic descriptions of coal. Deliveries have been much delayed—especially in the Liège basin—by heavy floods which have prevailed. More or less considerable stocks are being formed at the mouths of many collieries, especially of rock coal, the price of which has become to a great extent nominal. Domestic descriptions of coal have fallen about 10*d.* per ton in the Mons basin.

An improvement which has taken place in the weather has brought with it a revival in the French iron trade, and merchants' iron has been quoted at 7*l.* 12*s.* per ton, while girders have realised 7*l.* 16*s.* per ton. It appears that the Eastern of France Railway Company has concluded a contract with M. Evrard, of Brussels, for the delivery of 830 trucks. In 1880 the imports of iron minerals into France amounted to 1,168,215 tons, or 24 per cent. more than in 1879. The exports of iron minerals from France last year were 114,795 tons, or 72 per cent. more than in 1879. The imports of iron into France last year amounted to about 76,000 tons. Steel was imported to the extent of 9071 tons.

It appears that in 1880 the extraction of coal in the French basins of the Pas-de-Calais and the Nord was as follows:—Pas-de-Calais, 4,846,700 tons; Nord, 3,647,144 tons; total, 8,493,844 tons. In 1879 the corresponding production stood thus:—Pas-de-Calais, 4,175,593 tons; Nord, 3,273,513 tons; total, 7,449,106 tons. The production thus increased last year 1,044,818 tons, or nearly 14 per cent. As regards the German coal trade, it may be observed that colliery proprietors continue to maintain their rates. The demand for coke is also fairly active. The extraction of coal in Germany in 1880 is returned as follows:—Breslau, 12,640,000 tons; Halle, 35,000 tons; Dortmund, 22,500,000 tons; Bonn, 6,628,000 tons; and Clausthal, 358,000 tons, including an aggregate of 42,161,000 tons. The corresponding production in 1879 was 37,670,000 tons, so that last year's extraction showed an increase of 4,491,000 tons.

A movement is set on foot for establishing a pig-iron exchange in Philadelphia. It is argued that it will have the effect of steadying



iron prices in the United States, and, by preventing those wide fluctuations in iron prices in America which have been witnessed during the past two years remove the possibility of large importations of iron from this side the Atlantic.

### WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS, STOCK AND SHARE DEALERS, &c.  
1. ST MICHAEL'S ALLEY, CORNHILL, LONDON.

After preliminary meetings and ascertaining the views of the shareholders in Aberllyn, Clementina, and D'Eresby Consols, a special meeting was held of each company last week, and resolutions unanimously passed to work them in future as an amalgamated company, under the name of the "Gwydyr Amalgamated Mines Company (Limited)," which is about to be registered.

The three mines are all held under lease from Lady Willoughby D'Eresby, and may be described as in one block, and the shareholders are mostly the same in all. Yet there are three directorships, three secretariats, &c., at an expense of over 1000*l.* a year, two-thirds of which will be saved by the amalgamation.

The Aberllyn, as we have before stated, has already discovered in the great Gorse lode about 20,000*l.* to 30,000*l.* worth of blende, which at 3*l.* 10*s.* per ton the agent estimated could be worked at a profit of 2000*l.* a year. Expensive machinery was erected to return it, and when it commenced dressing spelter was at 19*l.* to 20*l.* per ton. Thus the first sales of blende were at 3*l.* 10*s.* to 3*l.* 17*s.* per ton. Then spelter dropped to 14*l.*, and the blende to 17*l.* 18*s.*, so that the directors determined to keep it in reserve rather than sell at a loss, and proceed to prove the mine in depth for lead. In this way the balance of capital was spent, and, as it was found necessary to raise means, the amalgamated scheme was considered the best for doing it. Spelter is now up to 16*l.*, and the prospects for a discovery of lead under the blende are good.

Clementina by many is looked upon as one of the prettiest speculations in the district. It has already, down to a shallow level, returned over 2000*l.* worth of lead, and only wants to be sunk to deeper levels to make it a good paying mine; but so much of the capital was spent in machinery (it is, like Aberllyn, worked by water power) that nothing is left to work it in depth.

D'Eresby Consols, which adjoins D'Eresby Mountain to the south, has no machinery, but has money wherewith to purchase it.

A very important feature in this amalgamation has now to be mentioned; we have obtained the sett lying between D'Eresby Mountain and Clementina, through which the great gorse lode of D'Eresby Mountain passes in lead-bearing strata, and which can be intersected at a good depth by an adit, as well as from Clementina. This sett will add very greatly to the value of the amalgamated mines, and we hand it over to the new company on condition only that shareholders in Aberllyn and Clementina shall have some proportionate allowance made them in shares for their machinery, and that D'Eresby Consols, having none, should be asked to take up capital shares with their money in hand. And these shares will have a good option upon them.

In the first instance, every shareholder in Aberllyn, Clementina, and D'Eresby, will have allotted to him the same number of shares of 1*l.* each fully paid up that he now holds in each, except D'Eresby Consols, which gets 10 of 1*l.* for one of 10*l.*

Then the shares wherewith to raise the small capital necessary to bring the mines into a profitable state—20,000 of 1*l.* each fully paid up—are to be issued, and offered in the first instance to shareholders in the amalgamated company only at 10*s.* each fully paid—that is, at a discount of 10*s.* Of these 10,000 will be thus issued, and 10,000 kept in reserve, and the option referred to is this—one taking 100 shares at 10*s.*, with one 1*l.* fully paid up, out of the first lot, will have the option of claiming the like number at the same price in the reserved lot at any time within 12 months, so that should a discovery take place and shares rise to 1*l.*, those who take these shares now would have the right to call for the same number at 10*s.*

A great many of the present shareholders in the three mines who, as we have explained, take for the interest they now hold the like shares fully paid up in the amalgamated company have also expressed their wish to take up altogether a large proportion of the capital shares with the option, and as we have secured 4000 of them, any client or friend wishing for any at 10*s.* (1*l.* paid), with the option attached, must send us early intimation of it. It will be seen from the above that the objects of the amalgamation, which will consist now of four mines—are, first, to reduce expenses of management; and, second, to raise capital to bring them to a successful issue; and as some inducement to those who have already spent so much, the 1*l.* shares which 20 for capital are issued at 10*s.*, and will amply provide all that is necessary. Our list of 4000 will be filled up by first applicants.

In our last a clerical error occurred. In the first paragraph it should have been "and dividends are still being paid."

Things are looking better at Glenroy. The old company never cut the lode beyond the slide at the 60 (their deepest level); they drove a cross-cut, and stopped short. This has lately been continued, and the lode cut 3 ft. wide, and we trust it may lead to something good.

Some very rich copper was blasted from the 90 end at Carnarvon on Saturday, and there is every appearance of being near the great course of ore.

We wrote advisedly when we said last week that the waterspout at East Rose had "destroyed the mine." It had always been a difficult one to work. The lode was so soft that every level had to be boarded up, and sometimes, when lead was wanted, a board was taken down, and the lead, as they used to say, "ran out like soup," and after the flood the levels ran together. We often visited the mine during its prosperity, and at the time the accident happened ourselves and friends owned the whole of North Rose sett; and as our shaft was deep, and in solid ground, East Rose was anxious to obtain it, in order to try and work the old mine again, if possible, through our shaft and levels; and, as North Rose was very poor, we sold it to the East Rose Company for 4000*l.* They then in this way tried to re-work the mine, but it ended in failure, and the company was wound-up.

We agree with our correspondent that a line from the Wheal Pevor agents to the *Mining Journal* of last Saturday would have relieved the minds of the shareholders; but all during the panic the agents were silent, so far as we can understand, and we question if the slide in the 80 was the real cause of the fall.

The rise in the back of the 108 in Wheal Crebor is up 8 fathoms towards the 96, and when a little higher two levels will be commenced east and west at the 96; that west to communicate with the new shaft, and east through the rich ore ground.

The old Florence and Tonkin is now, we understand, the Callington Consols. We cannot answer the other questions.

The report of Carnarvon received since our remarks above were written seems to point to great success. We have always explained that there were two courses of ore in the mine dipping towards each other, and that the ore was very rich. At the 90, at Garnon's, rich ore is coming in. At the 36 winze, at Golden Venture, the lode is worth 3 tons of ore per fathom. The financial position of the company is good, nearly 4000*l.* cash in hand and 3000 shares unissued, and to be held in reserve.

We expect that many, like our correspondent, applied for gold shares merely for the sake of getting a premium, and now find they are liable to pay up, and cannot sell except at a discount.

Parys Corporation has sold this week ores to the value of 1364*l.*, and has 160 tons of copper ore ready for next sampling. The 60 tons of precipitate brought 10*l.* 7*s.* 6*d.* per ton. There is no reason, there-

fore, for the present price of shares, which is solely owing to the dull state of the market.

We have had Wheal Pevor inspected this week by a practical agent upon whose report every reliance may be placed. The report did not reach us till to-day (Friday), and we have not time to enter into it this week. In our next we may do so fully. In the meantime our friends and clients, and those wishing to know the mine's true position, will be communicated with on application.

### PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth (Feb. 17), writes:—Although our market has not been very active since last week its tone has gradually improved, and, with one or two exceptions, prices close higher. Carn Brea shares have risen 5*l.*, Dolcoaths 10*s.*, East Pool 10*s.*, West Pevor 10*s.*, and Wheal Pevor 3*l.*, but South Franks fell 3*l.*. To day's market is quiet. The following are to-day's prices:—Blue Hills, 2½ to 3; Carn Brea, 118 to 120; Cook's Kitchen, 11 to 11½; Dolcoaths, 5½ to 5¾; East Pool, 34 to 34½; Killifreth, ¼ to ½; Mellanear, 5 to 5½; New Cook's Kitchen, 7½ to 7¾; North Busy, 1½ to 1¾; Pendarves United, 9 to 10; Penhalls, 1½ to 2; Pedn-an-drea, 2½ to 2¾; Phenix, 2 to 2½; South Condurrow, 10 to 10½; South Crofty, 10½ to 10¾; South Franks, 9 to 9½; Tincroft, 19½ to 19¾; West Basset, 12 to 12½; West Franks, 11½ to 11¾; West Kitt, 2½ to 2¾; West Pevor, 15½ to 16; West Poldice, 3½ to 3¾; West Tolgus, 45 to 50; West Seton, 18 to 20; Wheal Agar, 5 to 5½; Wheal Basset, 4 to 4½; Wheal Confort, 4 to 4½; Wheal Grenville, 10 to 10½; Wheal Pevor, 23½ to 24½; Wheal Kitty (St. Agnes), 3½ to 3¾; Wheal Prussia, 1½ to 1¾; Wheal Uny, 3½ to 3¾.

—Mr. J. H. REYNOLDS, stock and share broker, Redruth (Feb. 17), writes:—During the week business has been confined principally to Dolcoath, Carn Brea, and East Pool shares. South Franks have experienced a relapse, in face of the loss reported to be shown at the meeting on Tuesday next. The following are closing quotations:—Blue Hills, 2½ to 3; Carn Brea, 118½ to 119½; Cook's Kitchen, 11 to 11½; Dolcoath, 5½ to 5¾; East Pool, 34 to 34½; Gunnislake (Clitters), 4½ to 5½; Levant, 6 to 6½; Marke Valley, 1½ to 1¾; Mellanear, 5 to 5½; New Cook's Kitchen, 7½ to 7¾; North Busy, 1½ to 1¾; North Herodsfoot, 10 to 12½; North Penhalls, 2 to 2½; Pedn-an-drea, 2½ to 2¾; Pendarves United, 9 to 10; Phenix, 2 to 2½; Penhalls, 1½ to 2; South Condurrow, 10 to 10½; South Crofty, 10½ to 10¾; South Franks, 9½ to 9¾; Tincroft, 19½ to 19¾; Trugo, 1½ to 1¾; West Basset, 12½ to 12¾; West Franks, 11½ to 11¾; West Pevor, 15½ to 16; West Poldice, 3½ to 3¾; West Seton, 17½ to 18½; West Tolgus, 50 to 55; Wheal Agar, 5 to 5½; Wheal Basset, 4½ to 4¾; Wheal Boys, 2½ to 2¾; Wheal Confort, 4 to 4½; Wheal Grenville, 10½ to 10¾; Wheal Jane, 10½ to 15½; Wheal Jewell, 8 to 10½; Wheal Kitty, 3½ to 3¾; Wheal Pevor, 23½ to 24½; Wheal Prussia, 1½ to 2; Wheal Uny, 4 to 4½. Cornish Bank shares 20*l.*

—Mr. JOHN CARTER, mine sharedealer, Camborne (Feb. 17), writes:—The share market has been rather quiet during the week, and business has been restricted to a few of the leading mines. Dolcoath shares have slightly improved, closing buyers to-day at 56½. Carn Brea have also improved to 118½. East Pool are also better at 34½. Wheal Pevor have improved to 23½. South Crofts are a little more enquired for. South Franks were forced down to 9, closing to-day at 9½. The meeting will be held on Tuesday, at which a loss is expected to be shown on the quarter's working. It is rumoured some unpleasant questions will be discussed at this meeting. East Pool meeting will be held on Monday, when a dividend of 20*s.* per share is expected. Closing prices herewith:—Blue Hills, 2½ to 3; Carn Brea, 118 to 120; Cook's Kitchen, 10½ to 11; Dolcoath, 5½ to 5¾; East Caradon, 1½ to 2; East Pool, 34 to 34½; Mellanear, 5 to 5½; North Busy, 1½ to 1¾; North Herodsfoot, 10 to 12½; North Penhalls, 2 to 2½; Pedn-an-drea, 2½ to 2¾; Pendarves United, 9 to 10; Phenix, 2 to 2½; Penhalls, 1½ to 2; South Condurrow, 10 to 10½; South Crofty, 10½ to 10¾; South Franks, 9½ to 9¾; Tincroft, 19½ to 19¾; West Basset, 12½ to 12¾; West Franks, 11 to 11½; West Pevor, 15 to 16; West Poldice, 3½ to 3¾; West Tolgus, 47½ to 50; West Seton, 17 to 19; Wheal Agar, 5 to 5½; Wheal Basset, 4½ to 4¾; Wheal Grenville, 10½ to 10¾; Wheal Jane, 12½ to 15½; Wheal Pevor, 23½ to 24½; Wheal Kitty (St. Agnes), 3½ to 3¾; Wheal Prussia, 32½ to 34½; Wheal Uny, 3½ to 4.

—Mr. M. W. BAYDEN, Liskeard (Feb. 17), writes:—The mining market presents an improved appearance from last week, tin being decidedly firmer, with enquiries for most of the leading stock. South Devon United shares have been largely dealt in, and advanced to 5½ buyers, but close a shade lower on sellers realising. Suloidea are the closing quotations:—Bedford United, 1½ to 1¾; Carn Brea, 119 to 120; Gunnislake (Clitters), 4½ to 4¾; Cook's Kitchen, 11 to 11½; Dolcoath, 57 to 57½; Drake Walls, 1½ to 1¾; Devon Consols, 14 to 14½; Devon Great United, 1½ to 2; East Caradon, 1½ to 2; East Crebor, ¾ to ¾; East Herodsfoot, 1 to 1½; East Pool, 34 to 34½; Gayton United, 1½ to 1¾; Glasgow Caradon, 1 to 1½; Herodsfoot, ¾ to 1; Hington Down, 1½ to 1¾; Kit Hill Consols, 1 to 1½; Lady Bertha, 1 to 1½; Marke Valley, 1½ to 1¾; New West Caradon, ¾ to ¾; North Herodsfoot, ¾ to ¾; Old Gunnislake, ¾ to ¾; Phenix United, 2½ to 2¾; Prince of Wales, ¾ to ¾; South Caradon, 60 to 62½; South Condurrow, 10 to 10½; South Crebor, 1½ to 1¾; South Crofty, 10 to 10½; South Devon United, 4½ to 4¾; South Franks, 9½ to 9¾; Tincroft, 19 to 19½; West Basset, 12 to 12½; West Caradon, 1½ to 2; West Crebor, ¾ to ¾; West Franks, 10½ to 11; West Mary Ann, 1½ to 1¾; West Phenix, 1½ to 1¾; West Tolgus, 49 to 50; Wheal Agar, 5½ to 5¾; Wheal Crebor, 4 to 4½; Wheal Grenville, 10 to 10½; Wheal Hony and Trelawny, 2 to 2½; Wheal Kitty, 3½ to 3¾; Wheal Jane, ¾ to ¾; Wheal Pevor, 23 to 23½; Wheal Uny, 4½ to 4¾.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (Feb. 17), writes:—During the past week the markets all round have ruled still dull and inactive, and though money has tended towards ease, culminating in a reduction of the Bank Rate to-day, this condition has not helped values, a general decline having to be recorded in nearly all classes of securities. The amount of business done is, perhaps, slightly in advance of some few weeks past, but is still meagre, a policy of caution being observed by operators. Some few concerns have received support, and in one or two instances fairly sharp advances are to be noticed, but they are cases of low prices, tempting investment in hope of reward by awaiting a renewal of the hopeful feeling prevalent at the opening of the year, which is by many expected to recur immediately the disturbances troubling the country appear in a fair way for quieting. It is taken as a healthy sign that the relapse after the speculative advance which lately took place has not been more rapid and severe, for it points to the belief that though for the present dull a far from desponding view is taken of the future of trade.

BANKS have produced a fair share of the business transacted, and prices realised do not show any material change in either direction. The changes are very few, Bank of Liverpool being ¼, and Manchester and County (now quoted ex div.) ½ higher, and Manchester and Salford ½ lower. Bank of Oldham, too, are offered freely, buyers being scarce; whilst Oldham Joint-Stock Bank are firm. The Southport and West Lancashire Bank have received applications for about 20,000 of the new preference shares, and the petitions for winding up are in abeyance for six weeks, thus allowing more time for consolidating the scheme for reconstruction, which the committee say will be practicable if 25,000 preference shares are taken up, and 2*l.* per share paid thereon, coupled with a call of 1*l.* per share on the ordinary shares.

INSURANCE shares have been dealt in to a very limited extent, and figures obtained do not call for special remark. The alterations of quotations, however, show a general decline to have taken place, only one case of advance being marked—Maritime, which is ¼ higher, whilst Globe Marine are ½, Imperial Marine ¾, Commercial Union ½, British Foreign Marine ¾, and Manchester Fire ¾, and several others ½ lower. The declines, however, are not great, considering the many advances that have recently been established.

COAL, IRON, &c., AND MINING.—Not much business has been done in this class during the earlier days of the week, but latterly a little more activity has been apparent, though this market is far from brisk yet. The variations in prices are irregular. Some low-priced shares have shown a fresh upward movement, but otherwise the changes do not show any general tendency either way, changes being the result of individual influences. Higher: Chatterley Iron, 1½, having almost recovered the fall which occurred after the accident at one of their collieries; Llynvi Tondy, ¾, ditto, pref. ¾; A. Knowles and Sons, ¾ (having ruled stronger since their meeting, yesterday); Darlington Iron, ¾; Teesside Iron and Engine, ¾; and some others ½ better. Lower: Bilbao Iron Ore, 1½; John Browns, 1; Sheepbridge Coal, 2½; Great Laxey Lead, ½; and West Cumberland, ¼. Canadian Copper have been lower during the week, but to-day's figures, compared with last week's, are, is, lower.

COTTON SPINNING AND MANUFACTURING.—Though not much business passes, the tone has been stronger during the past two or three days, and, though prices do not show any advance worth naming, sellers do not appear so willing to concede as has lately been the case.

TELEGRAPHIC.—Since Friday last very little has been done, with the exception of a few solitary transactions in Western and Brazilian. Anglos, now ex div., are rather stronger, and Western and Brazilian show ¾ better, whilst Direct U.S. Cables are ¼ lower.—CANALS have not produced any dealings, but quotations in Bridgewater Navigation and Lancaster are ½ and ¾ respectively better.—CORPORATION STOCK, &c., not much doing in, but quotations of Oldham Gas and Water Authorities have improved ¾.—MISCELLANEOUS: Business dull. West India and Pacific Steam are 1, and Westheads ¾ higher; the latter wanted, and sellers scarce.—Lower: Union Plate Glass, 1; Rylands and Sons, ¾; and Household Stores, ½.

RAILWAYS.—There has been an uncertain tone about the railway market all the week, but to-day a climax has been reached, so much so that Caledonians are 7 lower than a week ago, the decline being caused by a very damaging article against the finances of this particular company, and an indictment against their Bills in Parliament. All others have gone down in sympathy, particularly North British and Sheffield stocks. The reduction of the Bank rate to 3 per cent. failed to have a rallying effect, and the market closes with a very unfavourable look. Canadians have declined in sympathy. Grand Trunk traffic (425*l.*) increase is, however, fairly good. Americans show a recovery. Philadelphia and Reading are adversely affected by the news of the action of the New York Courts in the deferred share scheme.

HULL.—Mr. W. FOWLER SUTTON, stock and share broker, St. Mary's Chambers (Feb. 17), writes:—The railway markets have been irregular during the week, and there has been an absence of buoyancy generally, notwithstanding cheaper money and slightly improved weather. Caledonians have had an important fall, and close to-night about 6 per cent. lower on the week, arising from various rumours as to the poorness of the coming dividend, and that an injunction will be applied for to restrain any payment whatever, on the alleged ground of bad management. The southern stocks have shown a little better tone, but the general flatness of the market to-day has brought them down in sympathy. Canadian stocks are very lifeless, and business in them, as in rails generally, is of a most limited description. Foreign bonds firm, and Mexican rails steady. Local stocks firm.

Hull Bank, 11½, ex div.; London and Yorkshire Bank, 32*s.* 3*d.*, ex div.; Yorkshire Bank, 25½, ex div.; Hull Tramway, 9½; Earle's Shipbuilding, 20½.

### SCOTCH MINING AND INDUSTRIAL COMPANIES

#### SHARE MARKETS

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (Feb. 17) writes:—During the past week markets have remained dull and featureless, but sellers having rather preponderated, prices, in consequence, have had a downward tendency. Considering the state of the weather, the slackness of business is not surprising, and, perhaps, as spring approaches it will become more active, especially as the money market is again easier, and then, purchases made in the present favourable conditions may be expected to show a handsome profit.

In shares of coal, iron, and steel companies the movements for the week comprise advances of 2*s.* 6*d.* per share on Chillington Iron and Coal Company, 2*s.* on Marbella, 1*s.* 3*d.* on Steel Company of Scotland, also 1*s.* on Omoia and Cleland, but Nant-y-Glo and Blaina (pref.) are reduced 1*l.* per share, Glasgow Port Washington 6*s.* 6*d.*, Monkland (pref.) 5*s.* 3*d.*, Bolckow, Vaughan, 5*s.*, Scottish Australian, 2*s.* 6*d.*, and Benhar 1*s.* 6*d.*. In the Scotch pig-iron market warrants, after touching 50*s.* under the influence of increasing stocks and dull trade, have recovered to 51*s.* 3*d.*; the former is always a price which gives an opportunity for investors to purchase iron with good prospects of profit, but the recovery is principally due to a number of very large contracts of pipes for New South Wales, the quantity being stated as high as 80,000 tons; and Gartsherrie Iron is also advanced in price. Benhar weaker at 10*s.* to 12*s.* 6*d.*. The reduction in Monklands is due to a report that one of their pits is on fire. Whitehaven Iron unaltered. Bilbao Iron are at 30½; Bilson and Crump Meadow, 60*s.*; Bolckow, Vaughan, 29 to 29½; Cardiff and Swansea Coal, 35*s.*; Chillington Iron, 87*s.* 6*d.* to 90*s.*; Clyde Coal, 91*s.* 6*d.* to 92*s.* 6*d.*; Ebbw Vale, 11½ to 12; Henry Briggs, A, 10 to 12; John Bagnall and Sons, 7*s.* 6*d.*; Llynvi and Tondy, 15; Louthouse Colliery, 7*s.*; Marbella Iron, 8*s.* to 8*s.* 6*d.*; Monkland Iron and Coal, 47*s.* to 49*s.*; ditto (pref.), 47½ to 50½; Nant-y-Glo and Blaina, 32 to 40; Newport Abercrombie, 7½; Oakham Colliery (pref.), 5*s.*; Omoia and Cleland, 32*s.* to 34*s.*; Parkgate Iron, 20*s.* prem.; Steel Company of Scotland, 11½ to 11¾; Thorp's Gawber Hall, 20*s.*

In shares of foreign copper and lead companies Rio Tinto have advanced 1*l.* per share; Tharsis, 3*s.* 9*d.*; ditto (New), 2*s.* 6*d.*; Panulicillo, 1*s.* 3*d.*; and Huntington, 6*d.*; but Canadian are reduced 2*s.* 6*d.*. Tharsis improved from 38½ to 38¾. Canadian are at 43*s.* 6*d.* to 44*s.* 6*d.*; Huntington, 60*s.* to 62*s.* 6*d.*; Hungarian, 20*s.*; Panulicillo, 6½ to 6¾; Pierrelite (Preference), 22*s.* 6*d.*; Rio Tinto, 24½ to 24¾; and York Peninsula 5*s.* to 7*s.* 6*d.*

In shares of home mines prices are dull, in sympathy with the metal markets. Glasgow Caradon firm at 21*s.* to 21*s.* 6*d.*, and the new shares are at 15*s.* to 16*s.*. At the meeting of the Killifreth Mine a call of 5*s.* per share was made, but the mine is reported to be looking much better. Bedford United are at 35*s.* to 37*s.* 6*d.*; Bluen Caelan 21*s.* 6*d.*; Bwlch United 20*s.* to 25*s.*; Cambrian, 16*s.* 3*d.*; Cwm Pryf, 12*s.* 6*d.*; Devon Copper and Blende, 2*s.*; Devon United, 47*s.* 6*d.*; East Chilverton, 25*s.* to 30*s.*; East Long Rake, 25*s.*; East Roman Gravel, 10*s.* to 15*s.*; East Van, 35*s.* to 40*s.*; Gawnston, 25*s.* to 27*s.* 6*d.*; Hington Downs, 25*s.* to 30*s.*; Indian Queen, 40*s.* to 50*s.*; Kit Hill, 23*s.*; Lady Bertha, 20*s.*; Mid Devon, 26*s.* 6*d.*; New Kitt, 30*s.*; North Molton, 10*s.*; North Hendre, 5½ to 6½; ditto (New), 6*s.* to 7*s.*; North Penstruthal, 41*s.*; Pant-y-Mwyn, 15*s.* to 25*s.*; Parys Copper, 17*s.* 6*d.* to 20*s.*; Parka Consols, 40*s.* to 50*s.*; Rhosomer, 50*s.* to 60*s.*; South D'Eresby, 10*s.* to 15*s.*; South Devon, 4 to 4½; St. Just United, 50*s.* to 70*s.*; Tamar, 17*s.* 6*d.* to 20*s.*; West Kitt, 50*s.*; West Chilverton, 5*s.* to 10*s.*; West Holway, 27*s.* 6*d.* to 32*s.* 6*d.*; Wheal Crebor, 82*s.* 6*d.*; Wheal Coates, 20*s.*; Wheal Grenville, 10½; Wheal Jane, 10*s.* to 15*s.*; and Wheal Owles, 5½ to 6½.

In shares of gold and silver mines business has been quiet. Richmonds are better at 16½ to 16¾. Almaden 7*s.* 6*d.* to 10*s.*; Australasian Mines, 5*s.*; Chontales, 3*s.* 6*d.* to 4*s.* 6*d.*; English-Australian Gold, 25*s.* to 27*s.* 6*d.*; Great Southern of Mysore, 25*s.*; Gold Coast, 5*s.* to 7*s.*; Indian Mammoth, 5*s.* dis. to par; Nouveau Mont, 26*s.* 3*d.*; Nava de Jadraque, 15*s.*; New Gold Run, 5*s.*; Port Phillip, 11*s.*; Rossa Grande, 6*s.* 3*d.*; Rio Grande, A, 70*s.*; Santa Barbara, 27*s.* 6*d.*; South Indian, 42*s.* 6*d.*; Teconia, 5*s.* to 7*s.* 6*d.*; and Victoria (London), 7*s.* 6*d.* to 10*s.*

In shares of oil companies Broxburn have advanced 2*s.* 6*d.* per share, and Upbail are reduced a similar amount. Young's Paraffin have been done from 12½ to 12¾, 6*d.* to 12½, 6*d.*

In shares of miscellaneous companies there is no particular alteration to notice. Law Chemical are at 5½ to 5¾; Phospho-Guano, 6½. An odd lot of Scottish Wagon shares changed hands at 8½.

MARBELLA IRON ORE COMPANY.—The meeting of this company takes place on March 1, and a good report is issued for the year ended Dec. 31. Mining was resumed at Marbella in April last, but the utter absence of demand for iron ore which prevailed during June and July obliged the output to be reduced. In August trade revived, and since September the mines have been in full operation, their produce being disposed of at fairly remunerative prices. The nine months' output was 38,072 tons, and the profit 824*s.*. The combined losses of 1878 and 1879 were 921*s.*, so that there still remains 167*s.* at debit of revenue account; and until this is worked off no dividend will be declared. The mines are now in good condition for producing ore, and contracts having already been entered into for a large portion of the estimated output, the directors believe the current year will be a prosperous one. The expenses of management (2056*s.*) are less than any previous year.

CALLINGTON CONSOLS.—These important and extensive mines are situated on the slope of Kit Hill, adjoining the town of Callington, Cornwall, being thus in one of the best mining districts, and surrounded by great mineral deposits. The first grant belonging to the company is the Pengelly, which is expected will open out a great and rich silver mine; while the second—the Wheal Florence and Wheal Tonkin Mines—can be rendered remunerative for tin and copper soon, as the whole of the unavoidable preliminary deadwork of mining has been done, and the machinery, buildings, &c., erected at a large expenditure. The mines are convenient for railway and sea carriage, and in close connection with excellent roads. From their proximity to those mining centres Callington and Gunnislake, labour is always cheap and plentiful. The capital is 50,000*l.*, in 2*l.* shares.

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share brokers, Princes-street (Feb. 17) write:—The most noticeable feature in the railway market during the past week has been the fall in Caledonian, which has gone from 109 to 103½. North British has declined from 91½ to 89½; Glasgow and South-Western from 119½ to 113½; Great North of Scotland from 66½ to 64½. Clydesdale Bank has risen from 214½ to 222, and Union from 215 to 222. Royal has receded from 206 to 205. The changes in insurance shares are few. North British and Mercantile have receded from 67 to 65½, and Standard Life from 77½ to 75. In mines, Benhar Coal has declined from 12*s.* to 11*s.*; Canadian Copper from 47*s.* to 46*s.*; Glasgow Port Washington from 54*s.* to 47*s.* 6*d.*; Marbella Iron Ore have on the favourable report risen from 84*s.* to 86*s.*; Huntingtons have improved from 61*s.* to 62*s.* 6*d.*

### IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall (Feb. 16), write:—Markets continue very dull. Great Southern have been down to 114½, but close better to-day at 115. Midlands have relapsed to 88½ on bad traffic, and Bandons to 91½. Macraons asked for at 6½. National Banks are 67 to 67½, and Munsters 6½ to 6¾. Provincials strong at 59½ to 59¾. Cork Steam-Packets are steadier at 12½, and Dalys were done at 3. Lyons shares remain at 5½ to 5¾, and Gas shares at 7½ to 7¾. Gouldings are 9½, and Levys sellers at 5½. Harbour Board Debentures are 102½ to 102¾.

DUBLIN, FEB. 17.—There has been decidedly more business doing in mine shares during the week, but Wicklow Copper, in which the principal transactions have taken place, have receded 6*d.*, and close at 4*s.* Bank shares generally were weak. Bank of Ireland was dull, and a small lot sold at 308. London and County shares were fairly firm at 73½ to 73¾. Westminster were easier, receding to 67½, 67¾, and were 1*s.* 3*d.* lower for cash. Munsters were heavy, and relapsed to 6½. Nationals and Nationals of Liverpool were steady, and supported previous quotations. Provincials rose to 59¾. In railway shares Belfast and Northern Counties were steady, and a small lot changed hands at last price. Cork and Bandons were dull, and 2*s.* 6*d.* lower at 91½. Great Northern was steady, and supported yesterday's price. Great Southern was in demand, and rose 8*s.* 3*d.*, to 115. Midland and Western continued flat, and dropped 5*s.* further, to 38½. Great Northern and Western consols were dealt in at 12½ ex div. The general tone of the market is more satisfactory.

At the Stock and Share Auction Company's sale to-day at their Rooms, Crown Buildings, Old Broad-street, London, the following were among the prices obtained: Junior Army and Navy Stores, 1*l.* fully paid shares, 23*s.*; East Craven Moor Lead, 1*l.* shares, 10*s.* paid, 2*s.* 6*d.*; Western District Co-operative Society, 1*l.* shares, 17*s.*; Wetley Brick and Pottery Company, 20*l.* bonds, 18*l.*; Bilin Natural Mineral Water Company, 10*l.* shares, 6*l.*; Tamar Silver Lead Mining Company, 1*l.* shares, 22*s.*; West Holway Lead Company, 1*l.* shares, 21*s.*; British Indian Tea Company, 20*l.* shares, 3*l.* 10*s.*; Gorsedd and Merilyn Consols Mining, 2*l.* 10*s.* shares, 2*l.* 10*s.*; Onylyn and Dulais Collieries, 5*l.* shares, 3*l.* 12*s.* 6*d.*; and other miscellaneous securities fetched fair prices.

The directors of the Merchant Banking Company of London (Limited) have resolved to declare a dividend at the rate of 12 per cent. per annum for the half-year ended Dec. 31 last, making with the interim dividend paid in September 10 per cent. for the year, being at the same rate as that paid in previous years, and to carry forward 6005*l.* to next account.



subscription for shares will be closed on Thursday next, the 24th inst., for London and country.

### Registration of New Companies.

The following joint stock companies have been duly registered:—

**THOMAS'S CITY CARRIAGE AND WHEEL WORKS COMPANY (Limited).**—Capital 40,000*l.*, in shares of 10*l.* To purchase and carry on a going concern in Liverpool. The subscribers (who take one share each) are—W. Thomas, Liverpool; D. Busby, Liverpool; W. Busby, Liverpool; J. Dean, Liverpool; H. Vaughan, Liverpool; W. Bulmer, Liverpool; T. B. Jepson, Liverpool.

**THE ST. MICHAEL'S GAS COMPANY (Limited).**—Capital 25,000*l.*, in shares of 5*l.* To manufacture, sell, and supply gas in Portugal and its dependencies. The subscribers (who take one share each) are—C. Schmitz, 26, Belsize-gardens; T. S. Marshall, 4, Cornwall-terrace; J. F. Gallagher, 97, Adrian-terrace; J. H. Bridgford, Highgate; E. J. Hannan, Monkstown; J. Oliver, 3, Blomfield-terrace; J. Jones, Peckham.

**SWAN'S ELECTRIC LIGHT COMPANY (Limited).**—Capital 100,000*l.*, in shares of 10*l.* To manufacture and sell apparatus, fittings, &c., in connection with electricity. The subscribers (who take one share each) are—J. Williamson, Westoe; H. Philipson, Tynemouth; A. S. Stevenson, Tynemouth; J. Craig, Tynemouth; J. Hall, Tynemouth; J. T. Merz, Newcastle; B. S. D. Campbell, North Shields; J. C. Swan, Newcastle.

**R. E. JONES' COCOA AND CHOCOLATE MANUFACTORY COMPANY (Limited).**—Capital 35,000*l.*, in shares of 5*l.* To purchase, carry on, and develop an established business. The subscribers (who take one share each) are—O. A. Bowman, Haggerston; T. H. Grove, 15, South Audley-street; R. E. Jones, Lewisham; H. W. Carey, 38, Nicholas-lane; H. M. Lawrence, Southampton; J. Rickard, 1, Little Tower-street; T. Wheeler, High Wycombe.

**THE BELL STONE SLATE QUARRIES COMPANY (Limited).**—Capital 30,000*l.*, in shares of 10*l.* To purchase or otherwise acquire certain quarries situated in the parish of Maenclochog, in the county of Pembroke, for the purpose of working and developing same. The subscribers (who take one share each) are—D. A. Rees, 10, Nelson-square; J. E. B. White, 42, Lyndhurst-road; J. Stowell, 125, Rodney-road; J. S. Fairfax, 1, Queen Victoria-street; G. Lund, Wanderers' Club; S. Birch, 32, Marshall-street; W. C. Haning, 15, Kilburn-lane.

**THE CITY OF LONDON FIRE INSURANCE COMPANY (Limited).**—Capital 1,000,000*l.*, in shares of 10*l.*, to carry on a general fire insurance business. The subscribers (who take 100 shares each) are—W. H. Maturin, 5, Courtfield Gardens; R. G. Morley, 7, Courtfield Gardens; H. E. Knight, 10, Love-lane; H. Barkly, 1, Bina Gardens; V. B. Tritton, 63, St. George's-square; S. W. Gore, 16, Whitehall Place; W. J. Thompson, jun., 38, Mincing-lane; G. Badham, 3, Salter's Hall Court.

**THE VERNON COTTON SPINNING COMPANY, STOCKPORT (Limited).**—Capital 70,000*l.*, in shares of 5*l.* To carry on the business of cotton spinners in all branches. The subscribers (who take 100 shares each) are—L. Arden, Manchester; W. Hartley, Stockport; R. Holling-drake, Stockport; J. Moorhouse, Stockport; E. Sykes, Heaton Norris; J. Twyford, Heaton Norris; B. Woodrow, Stockport.

**THE ASKAM AND MOUZELL IRON COMPANY (Limited).**—Capital 100,000*l.*, in shares of 100*l.* To purchase the goodwill, &c., and carry on the business of a company in Lancashire now in liquidation. The subscribers are—J. H. Horsfall, Liverpool, 100; J. Bourne, Liverpool, 100; G. E. Holt, New Brighton, 100; T. Massick, Millom, 100; J. Clegg, Ulverston, 400; J. Ashworth, Dalton-in-Furness, 100; H. Horsfall, Liverpool, 100.

**THE FITZGERALD ELECTRIC LIGHT AND POWER COMPANY (Limited).**—Capital 100,000*l.*, in shares of 1*l.* To manufacture and sell all apparatuses, machinery, lamps, &c., in connection with certain acquired patents. The subscribers (who take one share each) are—W. Arbuthnot, 28, Park-crescent; W. H. Beaumont, 22, Conduit-street; T. P. Powell, 49, Palace Gardens-terrace; J. Paterson, New Barnet; J. W. Gray, 27, Southampton Buildings; D. G. Fitzgerald, Brixton; J. McLean, 30, Throgmorton-street.

**THE TAMBRACHERRY ESTATES AND WYNAAD GOLD MINING COMPANY (Limited).**—Capital 160,000*l.*, in shares of 1*l.* The purchasing, or otherwise acquiring or undertaking, the business, property, mining, or other rights and liabilities of the Tambracherry Coffee Estates Company (Limited), and other tea and coffee estates in Wynaad and Calicut, Madras, for the purpose of clearing the same, planting and cultivating coffee, tea, cinchona, and other products thereon. To contract for the working by others, or work the different mines, reefs, and mining rights to be acquired from time to time by the company. The subscribers (who take 1000 shares each) are—W. R. Arbuthnot, East Grimstead, merchant; H. Knowles, 7, Mincing-lane, merchant; J. Labouchere, 38, Mincing-lane, colonial broker; H. Tolpuit, 32, Great St. Helens, gentleman; M. H. Pasteur, 38, Mincing-lane, colonial broker; W. Marcet, 39, Grosvenor-street, M.E.; H. G. Arbuthnot, 33, Great St. Helens, merchant. The first directors are Messrs. Knowles, W. R. Arbuthnot, Labouchere, and Tolpuit. The number must not be less than three or exceed five.

**THE SANKEY BROOK AND ASHTON GREEN COLLIERIES COMPANY (Limited).**—Capital 80,000*l.*, in shares of 100*l.* The winning, working, getting, and raising of coal, cannel, slack, ironstone, clay, and other mineral substances; the making and manufacturing of iron and steel, iron-founding, &c. The acquisition of the Sankey Brook and Ashton Green Collieries, situated in the borough of St. Helens, Lancashire, with the mines, pits, land, buildings, engines, machinery, wagons, stock, plant, &c., for the purpose of carrying on a mine owner and colliery owner's business in all branches. The subscribers (who take one share each) are—H. Bramall, Liverpool, colliery owner; W. E. Bramall, Ormskirk; W. E. J. Williams, Liverpool, coal agent; J. Whitehead, Preston, colliery owner; James W. Brindle, colliery proprietor; W. Aldrop, Preston, engineer; A. Whitehead Brindle, clerk. A director's qualification is the holding of 10 shares. The following compose the first board—Messrs. H. Bramall, John and James Whitehead.

**METROPOLITAN AUCTION, ADVANCE, AND ESTATE COMPANY (Limited).**—Capital 30,000*l.*, in shares of 2*l.* To carry on the business of auctioneers, estate agents, accountants, valuers of property of all kinds, trustees, executors, &c. The subscribers are—E. J. Lezard, 21, Oxford Gardens, 5; L. Courlander, Hampton Wick, 3; J. Lezard, 125, Ladbroke Grove, 5; A. Fowley, 18, Orchard-street, 1; J. K. Strong, 60, Seymour-street, 5; F. E. Lezard, Kentish Town, 5; L. A. Israel, 13, Chichester-street, 1.

**NATIONAL PUBLISHING COMPANY (Limited).**—Capital 20,000*l.*, in shares of 2*l.* and 10*l.* To carry on the business of publishers, booksellers, print and picture sellers. The subscribers (who take one share each) are—J. Daw, 3, Dyer's Buildings; A. J. Gendle, Peckham; A. Daw, 3, Dyer's Buildings; J. W. Birtwhistle, Camberwell; C. G. Jelliman Holloway; G. H. Boulter, Holloway; H. C. Jelliman Holloway.

**THE OKEL TOR COMPANY (Limited).**—Capital 40,000*l.*, in shares of 1*l.* To acquire and work mines of all kinds, and to prepare the produce thereof for market. To buy, sell, smelt, refine, prepare, and deal in ores, metals, metallic compounds and substances and minerals, and generally to carry on the business of mining in all branches. The subscribers (who take one share each) are—W. Allen, Camberwell, accountant; A. Heeps, 9, Cornhill, stockbroker; W. Laughton, Stock Exchange, shareholder; T. Postlethwaite, Stock Exchange, shareholder; G. A. Potter, Stock Exchange, shareholder; J. Brown, 30, Finsbury-circus, clerk; R. H. M. Jackman, 31, Threadneedle-street, shareholder. A director's qualification is 250*l.*

**GHYLL HYDROPATHIC ESTABLISHMENT COMPANY, ILKLEY (Limited).**—Capital 32,500*l.*, in shares of 100*l.* To acquire land in Yorkshire, erecting thereon and conducting an hydropathic establishment. The subscribers are—M. Pickering, Leeds, 5; W. Matthewman, Leeds, 2; C. Goodall, Liverpool, 1; W. Bakewell, Liverpool, 10; W. Brownfoot, Liverpool, 2; G. E. Pickering, Liverpool, 5; W. Smith, Liverpool, 2.

**THE LONDON GERMAN LAGER BEER BREWERY COMPANY (Limited).**—Capital 200,000*l.*, in shares of 5*l.* To carry on a brewer's

and malster's business in all branches. The subscribers are—H. Schuman, 12, Clement's-lane, 20; C. A. Bingel, 12, Clement's-lane, 20; H. B. Monkenzen, 9, Mincing-lane, 20; W. O. Benkenhoff, 43, Mincing-lane, 10; T. Herman, 229, Upper Thames-street, 10; L. Markwald, 53, Gracechurch-street, 20; E. Williams, 1, Mincing-lane, 5.

**THE COUPON AGENCY (Limited).**—Capital 80,000*l.*, in shares of 1*l.* To carry on a general financial, stock, share, coupon, &c., agency. The subscribers are—C. E. Lewis, 22, Norfolk-lane, 1000; G. Herring, 6, Park Crescent, 1000; E. Bishop, Gipsy Hill, 500; G. Parker, Highgate, 500; J. L. Bates, Rye, 1000; F. W. Smith, Blackheath, 500; Sir G. Balfour, 6, Cleveland Gardens, 1000.

**THE GAS PATENTS COMPANY (Limited).**—Capital 20,000*l.*, in shares of 10*l.* To acquire certain patents, and to work or grant licenses for working same. The subscribers (who take one share each) are—J. Bath, 12, Saint Benet-place; W. B. Garret, 63, Great Tower-street; J. H. Laurence, Lee; J. Saunders, Richmond; R. Bath, 12, Saint Benet-place; J. Gooch, Richmond; A. Carson, Crouch Hill.

### Meetings of Public Companies.

#### WALA-WYNAAD INDIAN GOLD MINING COMPANY.

The statutory general meeting of shareholders was held at the Cannon-street Hotel on Monday.

Mr. H. SCHULTZ in the chair.

Mr. WILLIAM EDWARDS (the secretary) read the notice calling the meeting.

THE CHAIRMAN said—Gentlemen, this being our statutory meeting perhaps you will not be disappointed if our budget of news is but small, but what little I have to say is, however, satisfactory. First and foremost our title, which is freehold from the Government, is complete; we shall not, therefore, be troubled with the inconvenience which some Indian mining enterprises have been suffering from. (Hear, hear.) We have not lost any time upon this important fact being ascertained, and we requested one of the board to proceed to the property and take charge of it until we can obtain a permanent manager, who will relieve him and take charge of his temporary post. Col. Day at once started for the property; he has arrived at Bombay, has started from Bombay for the property, and we may now almost daily expect to hear of his arrival on the spot. It is but a just tribute to him to say that the shareholders can congratulate themselves upon having a man of such honesty of purpose and energy in their service, and who will, in a business-like way, carry out any suggestions made to him, as he personally is not possessed of mining experience, and therefore, he will confine himself to carrying out the directions of the consulting engineer, Prof. Simons, whom we believe to be on the property now, and from whom we also shortly expect a report. We know that Prof. Simons on his way to India engaged a mining captain who is acquainted with the language of the natives, and, of course, possesses mining experience, and who is in possession of very excellent testimonials—therefore, although we have not received a formal report, we have every reason to believe that no time is being lost in India in getting to work. That is pretty well all I have to say to you now, but there are one or two points in our prospectus which we may well dwell upon with satisfaction. In the first place we know we have alluvial gold on the property, as testified by a splendid sample of black sand sent to us from Hinde and Co., who also spoke of one or two reefs on the property. This black sand was assayed by Johnson, Matthey, and Co., and assayed 52 ozs. to the ton, and if there is plenty of that you will see that is a source of very great wealth. The next great question—next to the presence of gold—is the supply of water, and we may congratulate ourselves that we are well supplied with water, and we need not depend upon the monsoon rains, but we have a constantly running river, and not one of those rivers which often dry up when most wanted. (A laugh.) We have a dense forest on the property which will supply us with all the timber we want. The only question is that of labour. Owing to the numerous enterprises which have sprung up in the last 11 or 12 months, perhaps this question of labour has given rise to more anxiety than it deserves, but one can scarcely suppose there will be any scarcity of labour amongst such a dense population. They are reported to be good labourers. Of course the price may be fairly expected to rise at some future time, but not to a degree to impede mining enterprise; and it may be looked upon more than such prices will increase for the increased spending power of the natives than for any excessive demand for labour. Gentlemen, that is all I have to say, and that concludes the business, but I shall be happy to answer any questions which any shareholder may wish to put. (Cheers.) I may add that we shall duly communicate to you any information which we may receive from the mine.

A SHAREHOLDER: Have you taken the necessary steps to obtain a settlement on the Stock Exchange?—THE CHAIRMAN: We have applied for one.—THE SHAREHOLDER: Have you had any answer to the application?—THE CHAIRMAN: No, it takes some time. A SHAREHOLDER: You have fulfilled the necessary conditions?—THE CHAIRMAN: Certainly.

A SHAREHOLDER stated the prospectus stated that a certain number of acres had been laid out in coffee and tea plantations; he asked whether anything had been done in connection with those plantations, or was intended to be done?—THE CHAIRMAN: We shall not neglect any point, but until we receive our report it will not be possible to give more information than is stated in the prospectus. Col. Day has full power to do everything which is necessary. (Hear.) Major DE WINTON said that probably there were many persons in the room who were not present at the Society of Arts the evening before last, and he had some interesting points to read by Mr. Hyde Clarke, "Gold Mining in India." There were some points in the paper of very great importance and interest to India generally, and to this and other similar companies in the Wynaad district particularly, and he had dotted down a few of those points. Mr. Hyde Clarke stated that no doubt the known sites in the Wynaad district were only indications of large formations. In the discussion which followed the reading of the paper some points of interest were raised, and no one could have come away from hearing that discussion without the firm conviction not only that gold existed there over a large area, but also that it existed in very large and paying quantities. (Cheers.) On the point of labour, what the Chairman had said was fully stated by another gentleman that there was room in the Wynaad district for 800 companies. From all he could gather the nominal capital of the companies in the district was about 2½ millions, of which probably not more than ¼ million was called up. He was quite sure the directors would give the local administration over there their most serious consideration. A reference was made to the "loading" of the capital of gold mines in India. He held in his hand an extract from the Madras Times of Dec. 13, in which the water, far from bringing that charge against the promoters, was, on the contrary, the known and proved fact of one company's property being ascertainable to be worth 8½ times the value calculated value of the capital of the company, and it is only necessary to show success in one instance, and a run upon the shares of all companies will begin." (Cheers.)

On the motion of Mr. SERIAN, seconded by Mr. HULL, a cordial vote of thanks was passed to the Chairman and directors, and the meeting broke up.

#### THE ALMADA AND TIRITO CONSOLIDATED SILVER MINING COMPANY.

The 21st half-yearly general meeting of shareholders was held at the offices, Finsbury-circus, on Wednesday.

Mr. WM. MARTINEAU, M.I.C.E., in the chair.

Mr. J. ARTHUR MORAN, F.G.S. (the solicitor and general manager), read the notice calling the meeting. The report of the directors was taken as read.

THE CHAIRMAN said that at the meeting held six months ago the directors were able for the first time for some time past to report a profit. It was certainly small, only 87*l.*, but now the profit extended to four figures, and he hoped would continue to do so. The satisfactory feature about the making of the profit for the half-year was that it had not been made upon any sudden or special find, or any small lot of ore, but it had been made upon a steady improvement throughout the property, especially in the Mina Grande, where there had been a steady improvement. The resources throughout the mine were very much increased, and there was now an immense amount of ore in sight, which Mr. Clemes was able to treat by an improved process, which had produced the profit which the directors had now the pleasure of reporting. Instead of the decline ore the company now depended upon the black ores, which they were able to reduce there, either to base bullion or refined silver. The most recent shipment was a refined silver bar, and no doubt most of the future shipments will continue in that form, together with a certain amount of copper matte, which was refuse, containing a good deal of silver. The report of Mr. Clemes stated what had been done in the mining department, and the published slips which had informed them, up to a tolerably recent date, of the state of affairs in the mine. The directors had received some more recent reports from Capt. Morcom, the last dated Jan. 5. Amongst other things, he stated—"The slope in the back of the 12 m. level, I am pleased to say, maintains its usual productiveness. This is a splendid lode 25 ft. wide, 17 ft. of which is solid ore, or such as goes to the mill for treatment. The general result of Mr. Morcom's report was that all the points were looking well, and it bore out what Mr. Clemes had stated in recent telegrams relative to the reserve, having largely increased. The latest letter from Mr. Clemes was dated Jan. 5; in it he stated that in the drift north of the cross-cut there were indications in the breast of more ore and less felspar, and generally it looked better. Therefore he thought he was justified in saying that the improvement was real and substantial, and, as far as could be seen, durable. There were large resources which Mr. Clemes could work upon for some time to come, and produce returns, and he was not relaxing in his efforts to produce further results.

He had done so successfully, and no doubt could continue to do so. (Hear, hear.) The accounts took somewhat longer to prepare this year, but this was owing to a slight alteration in form. The accounts had been formerly calculated in dollars at 4*s.*, which involved a good deal of writing off, but now the detailed accounts were calculated at 3*s.* 6*d.* per dollar. The detailed accounts were very voluminous, perhaps unnecessarily so, but the directors did not like to have them curtailed, as it made the mine manager more careful and cautious in the undertaking. He would say a few words upon the debentures. The shareholders were aware that the debentures of this company fell due on June 30 next. Some of the debenture-holders had consented to renew the debentures, but others had not expressed any opinion upon the subject. But the company must be prepared to meet the amount. No doubt remittances received between now and then would do something towards meeting that, but it would not be safe to rely upon it, and the directors must, therefore, rely upon the shareholders to protect their own property and come strongly to take up the new debentures which were offered. The security offered was most satisfactory, and there was the certainty of the interest being paid regularly, as it had been paid during several years past, notwithstanding the period of great depression through which they had been passing. He might mention that the profits referred to in the report were after paying the debenture interest. It was difficult for the directors to put forward in a circular all the arguments which might be used in favour of the suggestion of the board, but he would read a few lines from a letter which had been received from one of the largest and most influential shareholders, who was also a debenture holder, and a man who looked at the thing in a thoroughly business-like point of view:—"There may be shareholders to whom it might be inconvenient to add to their capital, but, in my opinion, it would well repay them to sell shares (in the company) to raise their contribution, for take such a person with twelve shares, he sells three shares at 7*s.* 6*d.* = 1*l.* 2*s.* 6*d.*, and pays 2*s.* 6*d.* on nine shares = 1*l.* 2*s.* 6*d.*, making his former position of twelve shares at 7*s.* 6*d.* (4*l.* 10*s.*) into debentures 1*l.* 2*s.* 6*d.* on nine shares at 12*s.* 6*d.* (the assumed increase in the value of the shares if all the debentures were subscribed) = 5*l.* 12*s.*, or 2*l.* 4*s.* 6*d.* more valuable." The Chairman went on to say that the most recent report led the board to imagine that the position of the mine would be better. In conclusion he moved that the reports of the directors and manager, together with the accounts, be received and adopted.—Mr. ARTHUR P. FLETCHER seconded the resolution.

Mr. S. J. WILDE asked the difference between the office expenses and the charges. He expressed an opinion that the number of directors might with advantage be reduced to four. He questioned whether the depreciation account was rightly placed.

Mr. H. SWAFFIELD, one of the auditors, said he thought that the depreciation account was rightly placed and put as a charge against ordinary revenue, because that account bore the renewal of machinery and so forth. If they had no depreciation account they would have made a profit of 844*l.*; therefore, it was fair to have it taken from gross profit, and to carry on the net profit. He was pleased to find there was such a decided improvement in the mining prospects. He hoped that in future the accounts would be rendered and the meeting held at an earlier period. They were fortunate in having made a large discovery of black ore, as the supply of green ore was pretty well exhausted, so they would soon be dependent upon the black ores. He might mention that he had himself selected Capt. Morcom to proceed to the mines, and he thought Capt. Morcom had thoroughly justified the choice made. The prospects of the mine were better than for some years past. He believed that the directors, who had reduced their remuneration by one-half, were working well.

Mr. MORAN said he did not think they could work with fewer directors than at present. There was the contingency of illness, and it was necessary to form a committee. Recently there had been a very great number of transfers, and he did not see that they could well do with less than the present number of directors.

THE CHAIRMAN, in reply to Mr. WILDE, said the "charges," as distinguished from the office expenses, were chiefly for the printed slips which were sent round at the special request of the shareholders.

The resolution for the adoption of the report and accounts was then put and carried.

THE CHAIRMAN moved that the election of Mr. John L. Littlehales to a seat at the board in the place of Mr. J. P. G. Smith be confirmed. He said that Mr. Littlehales was the son of the largest shareholder, and had visited the mine, and was an extremely useful director.—Mr. S. J. WILDE seconded the resolution, which was put and carried.

Mr. LITTLEHALES, in acknowledging his election, said that he visited the mine two or three years ago, and stayed there about three weeks; he went down the mine, and the opinion he formed was most favourable to the future success of the enterprise. He expressed his hope that the shareholders would take up the debentures, and pointed out that the security was as ample as could be wished.

On the motion of Mr. S. J. WILDE a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

#### NAVA DE JADRAQUE GOLD AND SILVER MINING COMPANY.

The annual general meeting of the company was held at Great Winchester-street on Tuesday.

Mr. EDWARD COTTON, C.E., in the Chair.

The Secretary read the report of the directors to the meeting as follows:—

The period that has elapsed since our first general meeting has been one of great fluctuation in mercantile affairs, and mining interests have been considerably affected thereby. Your directors have been actuated in their conduct of the business of the company by a desire to keep from all needless expenditure until such time as it would be prudent to make a forward movement in the development of the valuable property which you possess; the time has now arrived for that movement, and it is our business to lay before you the plan which we consider desirable to carry out in furtherance thereof. We submit a balance-sheet of the financial position of the company, and it will be satisfactory, we feel assured, to you to know that it is free from debt. The delay that has occurred in procuring the final and complete title deeds from the Spanish Government is now at an end, all the necessary documents being in our possession, therefore no further time will be lost on that account. Acting on the principle of slow and sure in the past, your directors can now fearlessly advocate prompt and energetic action in the present and future. As you will perceive by the paper in your hands, this property has been acquired principally for shares only; so highly is its value appreciated that the original holders of the grant have been content to receive in shares the value of their concession, a circumstance unparalleled in enterprises of this nature, and further, the vendor of the property has waived his right to be paid to the full value of the purchase-money in cash which he could have demanded, and has consented to the same amount in shares, less, of course, the sum that he has already received, which did not even cover the preliminary expenses incurred by him.

Your directors now propose, by judicious advertisement or otherwise, to urge the sale of the shares which remain unallotted of the original issue, and by these means raise a sum sufficient to commence the actual working of the mine. For the necessary operations it is estimated that a sum of about 5000*l.* will be required for the purpose of carrying out the operations of the company, and erecting a small dwelling for the superintendent, with a store and blacksmith's shop. If it found necessary a few dwelling houses for the men employed, as it would be preferable to have them on the spot, the distance to the village of Nava de Jadraque being three miles or thereabouts. Material in the shape of picks, bars, barrows, and other utensils would also be furnished. The greater portion of all such material should be sent out from England, but much could be obtained from the nearest town of Guadalajara. No decision can be arrived at as to the disposal of the ore until a fair quantity has been got out, and its value fairly tested, as it might be more prudent to ship the ore than to reduce it on the spot, these important details must at present remain undecided (hence the small number of shares at present) to be issued. Should circumstances warrant the early sending out of the crushing machinery and the erection of water-wheels these works will be carried out.

The operations of the neighbouring mine, the California, have been highly satisfactory, proving the existence of gold in very paying quantities, when we consider that they have to get their ore up from the mine by sinking a depth of 150 ft., whilst we are able to work ours by a dip from the river bed (a depth of 40 ft. from the surface), on the same vein. The advantages we possess over the California can be easily perceived even by those unacquainted with mining matters. In conclusion, we would simply remark that if the progress of the mine in our hands has appeared to some slower than was expected it must not be forgotten that we have put you in possession of a splendid property at a nominal cost, and that the company can now at once proceed to realise it untroubled by a single debt, and with a perfectly indisputable title, free from all onerous dead rent, or royalties.

THE CHAIRMAN said: Gentlemen, you have heard the report read by the secretary, and I do not think I have any further information to give you, but I should like to receive any suggestions by the shareholders themselves. I beg to move the adoption of the report and balance-sheet, including the directors' remuneration.

Mr. W. W. BENTLEY (a shareholder), after making a few remarks as to the satisfactory nature of the report, proposed that the report be adopted, which was seconded by Mr. T. M. CRIDGE, and carried unanimously.

It was proposed by Mr. MOFFATT, and seconded by Mr. J. B. ROGERS, "that Mr. J. W. Wright be re-elected a director of the company," and carried unanimously.

Proposed by Mr. W. W. BENTLEY, and seconded by Mr. T. M. CRIDGE, "that the resolution regarding the remuneration of the directors, as mentioned in the report, be adopted," and carried unanimously.

Proposed by Mr. T. M. CRIDGE, and seconded by Mr. W. W. BENTLEY, "that Mr. W. L. C. Browne, of Messrs. Browne, Stanley, and Co., be appointed auditor of the company," and carried unanimously.

In answer to one of the shareholders as to the number of shares represented at the meeting, present and by proxy, the SECRETARY stated that 40 shareholders were represented, present and by proxy, holding in the aggregate 13,663 shares.

Mr. TATE, C.E., one of the directors, read a letter received from Spain regarding the company's property, of which the following is a copy:—"Right in front of your company's properties across the River Sorbe to the west a mine has been opened out on an old working, and they have struck the lode at about 20 ft. from the surface, and have dug out some very fine specimens of viable gold, and the vein itself seems to me very wholesome indeed. The mine is, as I said, on the western side of the Sorbe, in front of your mines, in the parish of Polanco. I have spent a day on the examination of this ground, and I am convinced the ancients worked most extensively on these lodes. Besides the traces of the explorations I have found in a barranco, or gulley, close to the lode two splendid old mullers, or stones, which the ancients used for grinding the quartz, which must have been used by animal power from the shape of the eyes or heads of the fact of their being away up among the hills at such a distance from the river, also from the size of them. These mullers are chiselled or sculptured out of solid pieces of hard quartzite stone, and beautifully polished on the faces, and must have ground a no inconsiderable amount of stuff from the worn faces on the circles where they passed off, and on the stuff ground by them. Only imagine my impressions and thoughts of times gone by on looking on these simple implements of gold winning industry over some 2000 years ago.—JAMES TRAYNOR."

Mr. WHITE: Mr. Traynor says that these mines are far better than the Indian



mines. The adjoining properties produced 1 oz. to the ton, but the Spanish shareholders say they believe the average is 9 ozs., which is, perhaps, too good. If we take it at 1 oz. that would be good enough. We can work the mines at very little expense; the quartz will pay at 10 dwts. to the ton. We have a length of 500 metres of the California lode on the adjoining property. It would appear that our mines are in the very richest spot of the district.

Mr. J. B. ROGERS said that being in a position to vouch for the accuracy of the accounts, having sent in a professional accountant to examine the books, he would propose the re-election of Mr. Fuller. His only surprise was that the concern had been conducted so very economically.

Mr. WHITE said this was a matter wholly for the shareholders to decide. The auditor was a personal friend of his, and so, perhaps, they had better have an independent man.

Mr. CRIDGE then moved that Mr. W. L. C. Browne, of the firm of Browne, Stanley, and Co., be elected auditor.

Mr. BENTLEY seconded the motion, which was carried unanimously.

The proceedings closed with a vote of thanks to the Chairman and directors.

#### WHEAL LUSKEY.

The first meeting of adventurers was held at Callington, on Monday, Mr. JOHN KEMPTHORNE in the chair.

The new lease for 21 years, containing favourable terms, was laid before the meeting and accepted. The mine was named Wheal Luskey after the name of the owner of the land, and was agreed to be divided into 12,000 shares. It was reported that the whole of the money to date expended in procuring lease &c., and driving 9 fms. into the hill did not amount to 80l. Capt. John Gifford was appointed manager, Capt. Wm Skewes consulting agent, and Mr. E. Nicholls was appointed purser. A call of 6d. per share was made, which will be sufficient to enable the lode to be seen in the cross-cut. The meeting was of a most congratulatory character. The agents reported that they were highly pleased with the character of the lode as seen at surface, and were sanguine of success. Subjoined is the agents' first report, presented at the meeting:—

Feb. 15.—The above mine is situated in the parish of North Hill, Cornwall, on the north-east side of the Caradon granite range, at the junction of the killas and granite, having the elvans and cross-courses usual in the mining district of East Cornwall. The lode at present opened on is very large in the costean pits, with a splendid gossan back. A cross-cut has been commenced at the foot of the hill and driven 9 fms. in a good killas formation, leaving about 12 fms. more to drive to intersect the lode, which when cut will be at a depth of about 14 fms. from surface, and from its appearance, as seen in the costean pits, we have every reason to believe that a rich lode will be met with. The driving of this level west into the hill will lay open backs averaging 60 fms or more in height, for the whole length of the set, which is about a mile long. Taking into consideration the facilities for obtaining water-power for all purposes, and the great size and fine character of the lode, we have not seen a property about which we have been so sanguine of permanent success for profitable working for many years past.

—Wm. Skewes, J. Gifford.

#### SOUTH TOLCARNE MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Austinfriars, on Thursday.

Mr. CHARLES CLARK in the chair.

The notice convening the meeting and the minutes of the last meeting were read by Mr. JAMES HICKEY (the secretary), and the financial statement for six months showed a debit balance of 1077l. This sale of tin, 115l. 14s., is the first for some time coming from the fresh openings in the engine-shaft.

Capt. ANGOVE then read his report, as subjoined:—  
Feb. 16.—Since the meeting of South Tolcarne Mine, held Sept. 7, 1880, we have advanced the work as rapidly as possible. The engine-shaft, which was then 2 fms. below the 50, has been sunk to the 60. At that meeting I reported "that in all probability we should meet with Fraser's lode before reaching the 60," and I am now pleased to report that it has been cut. It is between 3 and 4 ft. wide, composed of gossan, peach, with tin thinly mixed throughout, presenting a most favourable appearance. In the bottom of the shaft we have also the south wall of the Flat lode. We have seen but little of this, having had to timber the shaft before we could sink under it. We cut into it several feet north, and found the blue tinstone precisely the same as in the eastern mines on the same run. It contains tin throughout, but we have not seen enough of it up to the present to report its value. We purpose sinking 4 ft. deeper and then to drive north through this lode. In the level above this lode was large, and we may have to drive 5 or 6 fms. through it here before we reach the north wall, where it has generally produced the most tin. The granite in the bottom of the shaft is soft, presenting favourable indications. Our prospecting of the shaft, between the 40 and 50 fm. levels on Fraser's lode, are producing good tinstone. We sold to-day 60 tons, realising 115l. 14s., the highest price 8l. 15s. 6d., and the lowest 17s. 6d. per ton. We have erected and completed a comfortable dry for the men to change in. We have now 22 men employed.

The CHAIRMAN, in proposing that the accounts and agent's report read be received and passed, said that although it would be much more pleasant to the committee and all concerned to show a balance for dividends, still he thought they must all feel gratified that the aspect of affairs had vastly improved. There was, first of all, the gratifying fact that after a long interval of only calls they had begun to make sales, and if the sales have not realised a large amount the price per ton has been encouraging, and they hoped it is an earnest of much better things to follow shortly. The forfeited and relinquished shares in hand at the last meeting had since been taken up and paid for, and in consequence of this it is that the balance against the mine, which amounted in September to 850l., has only been increased to 1077l. during the six months. That, I think again, is very satisfactory. The prospects, as regards the underground workings, they would hear much more fully than he could pretend to give them from Mr. Angove. They had for a long time past been running a credit account with the merchants, and also to a certain extent with the bankers. Now, they thought it desirable to put an end to this, as that as they begin to work with a prospect of profits they should contribute enough to wipe off the entire debt, which happily is not very great. It is intended, as soon as the call which will presently be proposed is got in, that all merchants' bills, including everything up to the date of this financial statement, should be cleared off, and also the bankers' balance.—Mr. C. F. MACINTOSH, M.P., seconded the motion, which was agreed to unanimously.

Capt. ANGOVE then offered a few observations supplementary to those he had already made in his report. He said they had carried out the operations he hoped in a satisfactory manner. They had had to contend with a severe winter, and with a snowstorm which stopped for a time their water-courses. They had sunk their shaft, and although they had not made so much progress as he could wish they had got down to the interesting level where the Basset, the Basset, Fraser's lode, and the Flat lode all fall in together. The ground, too, is a very congenial and mineral-bearing rock. He had every reason to hope as they proceed that they will develop into a better state of things. Their lodes south when they come together will in his opinion produce tin. As they got into the lode and drove through it he had not the slightest doubt but what they would find a rich lode of tin. They had hopes that have been already sunk into and driven through it, and they had now been about two months or more in opening that piece of ground. When they commenced on it it was very small. They began with two men, but from being a few feet in length it has increased to 10 fms., and they have now six men employed. If it increases they will be able to make reasonable and fair returns. What they have raised has given a profit (deducting costs) of between 60l. and 70l. They are on the same run of lodes as Basset, South Condurrow, and Wheal Grenville. I have every reason to think that it will eventually make a substantial and good tin mine.

A call of 5s. per share was made, and a vote of thanks to the Chairman terminated the proceedings.

#### ENGLISH AND AUSTRALIAN COPPER COMPANY.

The report of the directors, prepared for presentation at the meeting on Thursday next, states that the gross quantity of ore, regulus, and precipitate, received from various mines during the 12 months ended June 30, 1880, has been 8858 tons 19 cwt., against 10,239 tons in the previous 12 months. The quantity of ore, regulus, and precipitate smelted at the Port Adelaide Smelting Works during the same period was 2227 tons 17 cwt. 3 qrs., against 3108 tons 9 cwt. 2 qrs. in the previous year, and the quantity smelted at the Newcastle Smelting Works during the same period was 8330 tons 5 cwt., against 502 tons 4 cwt. in the previous year. The quantity of copper made at the Port Adelaide Smelting Works was 441 tons 10 cwt. 1 qr. 7 lbs., against 565 tons 3 cwt. 1 qr. 2 lbs. in the previous year, and the quantity of copper made at the Newcastle Smelting Works 1094 tons 6 cwt. 2 qrs. 21 lbs., against 1196 tons 8 cwt. 3 qrs. 23 lbs. in the previous year. The quantity of copper shipped from, and sold in, Australia during the year ending June 30 last has been—Copper shipped from South Australia, 437 tons 17 cwt. 1 qr. 2 lbs.; copper sold in South Australia, 9 tons 5 cwt. 3 qrs. 4 lbs.; copper shipped from Newcastle, 47 tons 15 cwt.; copper delivered in Newcastle in return for ore, 1339 tons 12 cwt. 3 qrs. 21 lbs.; copper sold in Newcastle, 18 cwt. 3 qrs. The supplies of ore show a decrease in the year under review of 1380 tons, as compared with the supplies of the previous year. The rapid and powerful stimulus given to the copper mines of Australia by the rise of 20l. per ton between August, 1879, and January, 1880, was checked by the fall of 10l. per ton, which followed before that stimulus could be carried into practical effect. But a sensible impulse has been given to the mines, which will be increased by a steady copper market, and when the mineral wealth of the Far North is developed a large increase of supplies for our works may be looked for.

The latest official return relating to the Port Augusta and Government Gunns Railway in the Public Works report to June 30, 1880, states:—"That portion of the line between Port Augusta and Quorn, 25 miles from Port Augusta, was completed by the contractors and finally handed over to the Government on Dec. 15, 1879. The first section, 65 miles between Port Augusta and Wonoka (Hawker), was completed in April last, and was handed over to the Government by the contractor in May. Beyond this point the earthworks are completed as far as the 115th mile, the bridges and culverts as far as the 92nd mile, and the permanent way laid to the 90th mile. There are now about 800 men engaged upon this work. Extensive works are being carried on at Port Augusta, including the reclamation of land required for station purposes, the extension of the rails from the terminus through Meldred and Tassie streets, and fencing the station yards."

On Dec. 16 the railway was publicly opened by the Governor of South Australia, who, with his suite, accompanied by the Commissioner of Public Works and the engineer in chief, travelled on the line for about 120 miles in about five hours, excluding stoppages. The line was found to be in splendid order, and the fastest

time travelled was at the rate of over 40 miles an hour. The line is now laid right into the western plains.

At the time of the last annual meeting in February, 1880, the price of Burra copper was quoted at 77l. 10s. per ton. In June it fell to 68l. per ton. In August it rose for the short period of one month to 71l., and since then it has been 69l. to 65l., the present price. The stocks of copper in Europe in January, 1881, were 45,848 tons, against 41,379 tons on Jan. 1, 1880, Australian showing an increase of 1987 tons, and Chilean an increase of 1982 tons. The imports of Australian copper in the year 1880 were 9444 tons, against 9826 tons in 1879.

The anticipations in the last annual report with regard to the wharf at Port Adelaide have been fulfilled, the net earnings for the year under review having been 2370l. 3s. 5d., against 1279l. 11s. 4d. for the previous year.

The attention of the directors has, for some time past, been directed to the increased and increasing value of some portions of the company's property in Australia, consequent upon the great development and prosperity of the colony. Whilst the original outlay on the company's smelting works at the Burra in making roads, bridges, &c., for a distance of 100 miles from Adelaide, and in transporting materials for the furnaces, in many instances direct from England, has deteriorated in value in consequence of the cessation of the great Burra Mine, the other properties of the company, such as the land and smelting works, and wharf at Port Adelaide, the land and wharf frontage at Port Augusta, and the land smelting works at Newcastle, New South Wales, have steadily improved in value. In accordance with instructions from the directors, the company's manager at Adelaide has taken steps for a re-valuation of these properties, and when the proper time arrives the directors will avail themselves of such re-valuation to adjust the balance-sheet to the values of the respective properties of the company.

The profit and loss account for the year ended June 30, 1880, shows a credit balance of 2123l. 7s. 11d. The directors having regard to the exceptional circumstances affecting the profit and loss account for the year under review, propose to appropriate from the reserve fund a sum sufficient to make up a dividend of 1s. per share. The reserve fund stands at 10,355l. 8s. 10d.

#### VAN RAILWAY.

At the general meeting of shareholders, to be held on Thursday the directors will present their report and statement of accounts for the half-year ended Dec. 31, with regret that they are not of a more cheering character. The net profit amounts to 145l. 4s. 1d., and is derived from mineral and merchandise traffic only. Adding the balance carried over from the previous half-year there stands to the credit of net revenue account 327l. 3s. 5d. The directors recommend a distribution of dividend at the rate of 2 per cent. per annum, free of income-tax, which will take 200l., and leave a balance of 127l. 3s. 5d. to be carried forward. The balance at credit of capital account remains as last reported, 102l. 17s. 6d. The charge for maintenance of permanent way has been met out of revenue, and the renewal account has the same credit balance, 534l. 10s. The directors have to report with deep regret the death of their esteemed colleague, Mr. Robert Oldrey.

WHEAL JEWELL.—At the meeting in London on Feb. 11 (Mr. H. Waddington in the chair) the accounts showed a debit balance of 1324l. 8s. 10d. (of which 756l. 13s. 10d. is due to the bankers). A call of 3s. per share was made. Capt. James Juleff was appointed agent in place of Capt. Frank Gundry, deceased, and W. T. Bryant, who has accepted an agency in India. Capt. James Juleff reported that in looking at the great alteration in the composition of the lode to the east, and all the water from this point drained to the bottom of the mine, he believes that the deeper levels will yield good deposits of copper ore, and in paying quantities. About 20 years ago he remembers seeing a very fine gossan taken from a little shaft about 70 fms. west of the engine-shaft, and when the company have a quicker and cheaper means for drawing the stuff he would strongly recommend their driving the 50 west to get under this gossan, where there is every probability of making discoveries of copper ore. Seeing the apparent effect and the improved character of the lode about the intersection of the cross-courses to the east induces him to hope and believe they have a very valuable property. He finds the engine and pitwork in first-class working order.

#### EAST CHIVERTON MINE.

This property, which is immediately to the east of the celebrated West Chiverton Mine, and embraces the same lodes, has recently been inspected for a shareholder by Capt. William C. Vivian, who reports that the engine-shaft has been sunk to the 90, where the cross-cut south to the lode is 12 fms. in length. The level has been extended about 50 fms. west on the course of the lode, and in the last 20 fms. has been passing through scattered bunches of lead. In the present end of this level a great improvement has just been met with, the lode being 4 ft. wide, and yielding about 3 tons of very good lead ore per fathom, making it worth fully 35l. per fathom. Capt. Vivian says this discovery is most encouraging, as it opens out the prospect of a rich run of lead ground in the considerable distance intervening to the western boundary; also the lode seems to have a more settled character than at the levels above, and it is important to notice that the best bunches of lead met with at the shallower points were still further west, which would lead to the expectation that a continuous body of lead may be found as this (90 fm.) level is pushed on westward. He also considers it important to call attention to the fact that owing to the inequalities of elevation of the surface of the country (East Chiverton shaft being sunk on higher ground) the 30 almost precisely the same depth as the 30 in West Chiverton, where the lode took its most productive state in that mine, from which level down to the 130 or 140 over 150,000l. was paid in dividends. The 74 has been driven about 20 fms. further west than the 90, and in the last 20 or 30 fms. driven bunches of lead ore were passed through. A sink is now being made in the bottom of this level at about 8 fms. before the 90 end; the lode is here producing 1 ton of lead ore per fathom.

At the 64, which has been extended west about 60 fms., a side branch has just been discovered a little behind the end going back in a south-easterly direction, which will produce about 1 ton of lead ore per fathom; also at this level a cross-cut is being driven south from the engine-shaft for the purpose of intersecting a parallel lode to the one being developed in the operations hitherto referred to. This cross-cut has been extended over 50 fms., leaving about 25 fms. more to drive to reach the lode. The rock at present is hard, and the progress consequently slow, but from the past observations of the manager it is expected that the extent of the belt of hard rock has been nearly reached, and that much better speed will soon be made towards the object in view, the intersection of which may be of great value to the mine.

The engine is a powerful one, and of the best construction, which Capt. Vivian considers of sufficient capacity to drain the mine to a considerably deeper level than the present one. The pitwork is also of large size, strong, and well fixed, so that everything is ready for commencing to sink to a deeper level, and there to open out the lead formations, should the discovery now made in the 90 show by its continuity that greater riches are likely to be met with below.

The lode which is being developed in this mine is without doubt the south lode of West Chiverton, which has yielded such immense quantities of lead in that mine; and looking at the fact that the lead hitherto found in this mine at the shallower levels has been met with in the nearest points of operation to West Chiverton, and having regard also to the excellent bunch of lead just cut in the 90, together with the more masterly character of the lode at this depth there seems every reason for expecting that the future discoveries in this mine will be of greater permanency and value than those hitherto made, leading to the opening out of a highly profitable property.

It was in consequence of West Chiverton Mine cutting rich that this sett was taken up and a company formed to work it, but unfortunately a shaft was sunk some 60 fathoms deep without any prospect of success. It was then discovered that the shaft was not anywhere near the lode. The present shaft was sunk and between the 40 and 50 the lode was in the shaft. It was then decided to purchase a more powerful engine, and erect some on the new shaft, the old engine being some 120 fms. north, since which the mine has been continuously explored, the lode at each level encouraging the shareholders to persevere, and so considerably had it improved at the 74 fm. level that at one of the shareholders' meetings a resolution was passed to sink the shaft right away to a 90 fm. level, at which point the recent highly important discovery, or, more properly speaking, improvement, has been met, thus confirming the opinion of the present manager that East Chiverton would in depth be a valuable property.

MOUNT CARRIS.—We have seen, writes a correspondent, some of the most splendid stones of tin from this mine (which have been broken from the great flat lode this week) it has been our good fortune to look at for a long while. This discovery is quite 120 fms. west from the new engine-shaft, where they are preparing for the pumping-engine to work the very considerable course of tin already opened there. The long run of the tin ground now proved to be richly productive renders this one of the most promising young mines in this district.

MINYDD GORDDU.—Referring to the notice in our last week's Journal, it is mentioned that since then the mine has been inspected by Capt. Thos. Kemp, of the New Bronllyf Mine, who is about to take the management, who reports:—"From my examination of the underground workings, I find the engine-shaft in regular sinking under the 34, which is going down through a beautiful rock for the production of mineral, and from which water is issuing in all directions; and I also find that the stopes over the 36 are yielding splendid lead ores. The lode is an immense size, and its general position is everything that is desirable for the production of great deposits of mineral, and I am fully satisfied from my inspection that when the next level (the 46) is opened out great results will be obtained. The pit work is in good condition, and quite equal to cope with the work. On surface also the mine is well equipped with machinery, which is working well; in fact, I do not see that it can

work better." He writes further, on the 16th inst., that he had been over to the mine again, and that he had "examined the new discovery made by the sinking of a winze in the bottom of the 24 west of shaft. I find the said winze is going down in a splendid lode, producing large rocks of ore, and worth, for the length of the winze (6 ft.), 4 tons per fathom, and from all appearances a valuable section of ground will be opened out here."

LADY ANN.—Reports from this property continue good. The veinstuff still maintains the same width and quality, and the ground altogether is very promising. The level is now driven over 40 feet, and there is a continuance of lead in the middle of the level, which is 3 ft. by 6 ft. It is in the Westminster lode, and mining experts consider that a comparatively short distance will bring the workmen into the body of ore which is seen at the shaft about 15 yards from surface. In noticing the mines of this district Mr. Alfred Thomas says—"Between the Westminster and the Denbighshire Consolidated several old mines of past celebrity are situated in the same belt of limestone rocks, and there are a few mines of great promise now being prosecuted in this formation. . . . Of the latter the Lady Ann Mines, being a long length of unworked ground on the old Westminster lodes, may be mentioned as likely soon to take a leading place in the progressive mines." It is now considered by competent authorities that this notice will soon be verified.

NEW WEST CARADON MINE.—In driving the 38 fm. level cross-cut south another lode has just been met with, and the agent says that a more promising looking lode he never saw in the Caradon or any other district. The lode will in driving west upon it form a junction with two branches previously met with in the cross-cut, and at the point of junction the agent is sanguine of meeting with a good lode and probably a course of ore. The agent cannot say at present the distance that will have to be driven to the junction, but will probably be able to do so in a few days. He, however, is of opinion that they will not have far to drive.

#### THE "WILD DUCK," OR SPORTSMAN'S ARMS.

"Thee'st late again, Old Tom," says Jan Temby. "Hold thy tongue, Jan; I'm like an old winnard this cold weather, and the roads over the 'Nine Maidens' downs wor so slippery as glass, and I had hard work to get here." "Why, thin," says Mr. Donohoo, "ye should have done like Tim Sullivan when he was going to school." "What was that?" says Old Tom. "Tim was very late," said Mr. Donohoo, "one day, and the master asked what kept him." "Faith, Sir," said Tim, "I thought I never would get here at all at all, for every step I took forward I went two steps backward." "In that case," said the master, "ye never could have reached this." "But ye see, Sir," says Tim; "I cheated the frost by turning quite round, and then I got here fine and aisy." "I never tho't of that plan," says Old Tom; "but I'll try un next time." "Well," says Uncle Henny, "I think, comrades, the best thing we can do is to eat the good dinner Becky put before us, and then we shall feel more comfortable with something inside our jackets to keep the cold out." Dinner being over—"I am glad," says Uncle Henny, "that we are all well and able to unit once more; and I suppose Old Tom will be able to tell all the news of the world from the boy Jacky's reading the *Mining Journal*." "I tell ee," says Old Tom, "there's news enough in one Journal to keep we going for seven years, and I don't know where to begin; but what do ee think, soss, of all we poor men forced to keep our boys to school till they are 15, and when they are 18 they must only work so many hours in a day; and the boys and maidens' shoes going to bal must be blackened and shining, or they'll be turned home again; and after this year every bal maid must wear veils in summer and muffs in winter, and all the boys wear kid gloves; and when the roads are very slottory every boy and maid must have two pairs of shoes, so as to change when they come to bal, and a pair of slippers to put on at dinner-time to make them feel fitty and comfortable." "But," says Jan Jewell, "is all that in the Journal?" "Hold the tongue," says Old Tom; "that's only a trifle to all the new Mining Acts of Parliament. What do ee think, if a man tumbled into a shaft, or put off a hole about himself, for the honoes of his captain being hanged for it?" "Why, if they go on like that there," says Jan Temby, "they'll knack all the bals in the country." "To my mind," says Uncle Henny, "they that make such ridiculous laws should be made to pay for their folly, and support poor peoples' children after a certain age all the time they must be kept to school, because if our law makers wish to make gentry of poor peoples' children they should be made to pay the piper." "But ye seem to forget," says Cousin Will, "that the intention is to benefit the poor man." "Is," says Old Tom, "the benefit to the poor man is like filling his belly with the east wind, or teaching poor people by books how to cook their vittles, and make a savoury dish for dinner out of potatoes and salt. Some of we here this day have after working a long hard core often had nothing for dinner but potatoes and salt, and next morning put on our wet clothes again for want of fire to dry them. Do the mazed fools—Members of Parliament—ever think of the roguery they are doing in cheating the poor man of the labour of his children? The end of all this foolery and roguery will be to drive the poor man to desperate bad acts, and it is well to warn them in time to make up in increase of wages what they have robbed us of." "Well," says Jan Temby, "is there anything new, Old Tom, from the institutions or learned societies, or have they stopped the tin going down the Red River?" "No," says Old Tom, "the tin is still running away, and tho' the great captains are turned into squires, with M.E., C.E., F.G.S., &c., tacked to their tails, they can't stop it." "I have often wondered," says Jan Temby, "what was the meaning of M.E., C.E., F.G.S., &c." "Well," says Old Tom, "our boy Jacky was talking with a great scholar the other day, and he said M.E. stands for 'Mad Engineer,' C.E. for 'Common Engineer,' and F.G.S. for 'Fellow Going Shooting.'" "If that's the case," says Jan, "I should be better pleased with plain Capt. Jim or Capt. Jack in the old fashioned way." "Since your interesting conversation my friends has been going on," says Mr. Donohoo, "it has occurred to me to ask in what way mineral veins or lodes were first discovered?" "It is my opinion," says Uncle Henny, "it was by 'dowsing';" "and I say it was by 'streaming,'" says Old Tom, "for when we wer at Betty Hipp's night school, up to the end of Penyegon Moor, she had some larned books, giving account how the Romans, when Julius Caesar was a youngster, began streaming at Gwithian Bridge and west-south till they got to Cherry Gairn, Tuckingmill, then Bullon Gairn, Bray, and on south to Newton Moor, Forest Moor, &c. Cherry Gairn (garden) was full of cherry trees, and Bullon Gairn (an orchard of wild plums), now the valley district of Dolcoath Mine, was full of fruit trees, also Bray Valley, all the way south to Bolenowe Moor. The old people used to say that there was such a grove of trees from Bolenowe Moor to Gwithian that a cat could walk all the way on the top of them, and everyone in this mitten, except Mr. Donohoo, have often seen large oak trees found in the turf (peat) bogs in Forest and Bolenowe Moors; also hazel nuts quite sound 10 feet deep in the turf bogs, and I think that these are pretty good proofs that the valley was full of trees until they wer cut down by the Jews coming up from Market Jew and Julius Caesar and his men. This valley was full of soft earth and gravel, and was streamed generation after generation for tin and gold, and when they got to the rock they found the lodes, and followed them east and west." "Well done, Betty Hipp's night school," says Cousin Will. "I should like to see the school that is able to contradict it," says Old Tom. "When we were boys," says Uncle Henny, "we all of us saw 'Jews' Houses' in Bolenowe Moor, where they used to smelt the tin, and often found grains of gold, also charcoal used in smelting tin;" "but," says Jan Temby, "did the Romans and Jews all come from the same country?" "Betty Hipp's larned books," said Old Tom, "state that they all came from the same direction and for the same object, but the Jews lived a good way further east." "I'm not a judge of this matter," says Mr. Donohoo, "but I'm much obliged to Uncle Tom, and think it would be hard to contradict his statement." "What is your opinion, Cousin Will," says Jan Temby, "about driving levels at every 8, 10, or 20 fms.?" "My opinion," says Cousin Will, "is that there is no universal or uniform system for mining operations; the best plan in the world for one particular district would be totally inapplicable in another district, and by carrying out a uniform system of operations in all districts would be attended with certain loss." "I agree



with ee Cousin Will," says Jan Jewell, "and would at any old tributer if he would work a pitch in a bunchy lode with fair ground the same way as a would work a pitch in a capelly lode so hard as blazes. The man would be a mazed man and a fool that would do so, and working a tribute pitch is only working a little bal instead of a big one, and good tributers get good 'starts' without any letters tied to their tails."—From Cousin Jack's Unpublished MSS.

## FOREIGN MINES.

**RICHMOND CONSOLIDATED.**—Telegram from the mine at Eureka, Nevada: Week's run, \$48,000, from 888 tons of ore. Refinery, \$50,000.

—R. Rickard, Jan. 25: I beg to hand you the report of the different operations for the past week:—Lizette Tunnel cross-cut has been drifted 27 ft.; the ground in the present end is somewhat harder. The 500 north from the No. 12 chamber has been extended 6 ft. in hard ground. The rise in the back of the 500, south-east of the No. 14 chamber, has encountered ore, on which a raise has been put up 30 ft. in good ore; this promises to be an extensive ore body. The 500, north of the No. 29, has been advanced 6 ft. in hard limestone. The 600, south, from the quartzite, has been drifted 10 ft. without any change to mention. The 600, west on the quartzite, has been extended 21 ft.; the quartzite in the present end is about 5 ft. wide. The 600, north from the No. 14 chute, has been advanced 15 ft.; ground more favourable for drifting. The 700, north-west from the 600 winze, has been drifted 9 ft. in the same character of ground. The 700, south-west from the 600 winze, has been extended 7 ft. in hard ground. The 700 north has been advanced 16 ft. without any change to mention. The 700, west from shaft, has been drifted 6 ft. in hard limestone. The 800 west has been extended 2 ft. in hard ground. The 800, north-west on fissure, has been advanced 10 ft. without any change. The 900 west drift has been extended 6 ft.; ground somewhat more favourable. The 900, north-west on fissure, has been drifted 20 ft.; the ground is looking much more favourable for ore than it has for some time. The 900 winze is now down a total depth of 108 ft.; the ground in the bottom is improving, and looks very favourable for ore. All the chambers are looking well. On the whole there is an improvement since last report.

**PLACERVILLE.**—Telegram received from T. Price, Feb. 14, giving result of trial crushing from new vein, 120 tons crushed. West vein: yield, \$18,360.

**LA PLATA MINING AND SMELTING.**—Smelting Statement for fortnight from Jan. 15 to Jan. 29: Ore purchased, 150 tons; ore smelted, 152 tons; lead produced, 282 ton; silver produced, 51,182 ozs; silver-lead has been consigned to refiners, 298 tons; value of consignments, \$76,609; equal 15,960 tons.

**OREGON.**—F. Ennis, Jan. 17: The clean up at Effinger claim for the irregular washing done in December was 62½ ozs. gold dust, and will mint about \$1100. There has been quite a large amount of ground washed at the Steel claim, but as the bottom had not been worked in we did not clean up there. I left the mines on the morning of the 11th, and at that time there was but 400 in. of water in the ditches, and that was being used at the Steel claim. On the night of the 11th it commenced raining, and rained hard until the 15th, swelling the streams beyond anything I have ever here before. I have heard nothing from Thursday since, and do not know how the ditches stood. The cost-sheet for December amounts to \$899.49.

**SIERRA BUTTES (Gold).**—Result of the working at the Sierra Buttes and Plumas Eureka Mines for January:—Sierra Buttes: Total receipts, \$27,036; total working expenses, \$17,864;—Plumas Eureka: Total receipts, \$44,288; total working expenses, \$22,138. No sulphurets were worked during the month.

**ALMADA AND TIRITO CONSOLIDATED.**—Telegram from Mr. J. H. Clemes, dated Jan. 26: We have remitted you Mexican silver dollars to your order at the Bank of England, \$2000.

**BIRDSEYE.**—J. S. Goodwin, Jan. 25: I made a partial clean-up at the Neece and West, having run 15 days, cleaning up \$4000; this run was made in the Bush claim. We used 659 kegs of powder, but a portion of the blast remains for this coming run. This ground lies on the east rim, therefore it cannot be expected to yield as much gravel near to the pay channel. The expense for labour and spurt of rock to blast through to drain the low ground, of which I have mentioned heretofore; it will require at least four weeks more to blast through this high rock; we can then wash from the pay channel. However, it will be necessary to make alternate runs in rim and channel gravel in order to keep up our boxes close to the bank. Our grade has last run out, but I think we shall be able to wash nearly, if not quite, all of the channel gravel through our present flumes at a fair profit, which will require about two years' time, after which there will be several seasons of rim washing that will give good returns, as bed-rock cuts and bank blasting will be almost wholly dispensed with. When I made the remittance of \$9000, on Dec. 1, the indications were that we could make another clean-up by Jan. 1, which would pay off the indebtedness of November and December, instead of which we had no water with which to wash until Dec. 18. On Dec. 23 the storm abated, leaving quite a quantity of snow along the line of the ditch, which would have kept our water up to a full ditch; but the storm of Jan. 1 being warm, taking all the snow under our reach, and we have not as yet had any to replace it, consequently after a short rain storm our water rapidly decreases, without melting snow to feed it. The storms of the 13th to the 16th of the present month gave us during that time a full ditch. Since that the weather has been cool and drying. The water has fallen off 400 inches. I believe that unless we have heavy storms of rain and snow by the first of next month we must have an unusually poor season. Mr. Bow suggests buying water for the Red Dog claim. I think it advisable, as I believe this claim to be one of the best. At this claim to-day I exploded two blasts of 25 kegs each, doing all that could be expected. With what little water I now have I shall be able to make a test there, which I am confident will be good. Washing at Waloupa has been limited, as I have been using a portion of the water at Red Dog in piping through the rim gravel to get at the main bank. In running our present powder drifts at Waloupa I find the gravel is changing colour, which is a good indication, and I believe ere this season closes we shall reach good gravel, but of course it is impossible to tell what there is ahead unless prospected; this I mentioned to Mr. Powers last season, but so confident of being near pay gravel he did not think it advisable. As prospecting progresses it becomes more evident that the pay channel runs directly through the Uncle Sam claim; the Birdseye Company have there, I believe, a valuable piece of ground. The clean up just made pays for the labour only for November and December; there remains yet to be paid powder, taxes, blocks, &c., which I am in hopes to meet next clean up.

**JAVALI.**—G. E. Chambers: Extract from manager's letter dated Jan. 6: The following is my report of the past month's workings, which it gives me extreme pleasure to consider most satisfactory: Mine: 30½ vars were driven in the mine, and 92½ vars in the various manto workings; the rest of staff crushed came from the workings of our sundry labourers. The sinking under Nispero proceeds but slowly, chiefly on account of the water collected by the previous rains not yet having dried up. I am making a rise from Pim's to Pollock's tunnel, and expect to be through in the course of the month. The quartz is of a most promising quality, and gives good hopes for the whole of the ground between the two tunnels. I intend to recommence the driving of Pim's tunnel, which was abandoned on account of its great poverty and hardness, but this is a work which must be done, as I considered it advisable to go on with it gradually. It is also my opinion that after driving some 20 feet more it will come into paying ground; as it is now every foot will have to be blasted, and will probably cost about 4¢ per var. The whole of the different workings are in excellent order, and generally yielding fair quality quartz. I had some 170 cars of manto brought to the mill from Concepcion, and was very pleased to find it of much better average than the last we had from that mine.

**Mill and Remittance:** On account of the Christmas holidays I was only able to work 22 days, crushing 2180 tons of quartz, which yielded 468½ ozs. of gold, making an average of 4 dwts. 7 grs. per ton. The total remittance, including the result of the tailings mill, consisting of 514 ozs., which I think you will agree with me in considering most satisfactory, considering the work done. The quartz throughout being much softer we were able to crush a greater quantity, and thus make up for the slight decrease in the average yield. The weather is now very dry, and I very much fear if we shall be able to work the whole month, even with 25 stamps. I had hopes of having sufficient water up to the end of February, but if the present weather continues I fear this will not be possible. I have given contracts for firewood, so that the engine can go to work the moment required. Both engine and boiler have been thoroughly overhauled and re-painted.

**Tailings Mill:** Here we treated 190 tons of tailings, which yielded 45½ ozs. of gold, making an average of 4 dwts. 14 grs. per ton. The pieces for the foundation of the square stamps are already on the spot, and likewise nearly all the timber for the tramway from the Esperanza Mine to the mill. In the course of the month I hope to nearly complete the tramway and get in the greater part of the timber for the stamps.—Receipts and Expenditure: The coin was safely received. The expenditure was \$927.78. 6d.; the remittance I value at 1250¢.

**SAN PEDRO.**—The company have received advices from Mr. Pechey, dated Chama, Dec. 21: Mr. Pechey in the various manto workings; the rest of staff crushed came from the workings of our sundry labourers. The sinking under Nispero proceeds but slowly, chiefly on account of the water collected by the previous rains not yet having dried up. I am making a rise from Pim's to Pollock's tunnel, and expect to be through in the course of the month. The quartz is of a most promising quality, and gives good hopes for the whole of the ground between the two tunnels. I intend to recommence the driving of Pim's tunnel, which was abandoned on account of its great poverty and hardness, but this is a work which must be done, as I considered it advisable to go on with it gradually. It is also my opinion that after driving some 20 feet more it will come into paying ground; as it is now every foot will have to be blasted, and will probably cost about 4¢ per var. The whole of the different workings are in excellent order, and generally yielding fair quality quartz. I had some 170 cars of manto brought to the mill from Concepcion, and was very pleased to find it of much better average than the last we had from that mine.

**PIERREFITTE.**—Feb. 12: The manager reports as follows:—No. 1 stope over No. 1 level, yields 9 tons ore and blende per fathom. No. 2, 8 tons, below No. 1 level, 5 tons. No. 2, 6 tons. No. 5, 8 tons. No. 7, 9 tons. No. 8, 6 tons. In the No. 2 and the lode contains much blende, interspersed with lead ore; a very promising-looking lode indeed, but until it has been cut through (which we are now doing) the quantity of ore contained cannot be given: 65 tons of ore have been sent down over the cable during the past week, and about 75 tons broken underground. The breakage in the crusher, mentioned in my report of last week, has required this week to repair, and, therefore, the dressing has been kept in abeyance. The crusher will, all well, start to work again on Monday, and the dressing be resumed.

**RUBY AND DUNDERBERG CONSOLIDATED.**—Report for week ending Jan. 23:—The main shaft still continues in very hard ground; progress this week 9 ft.; total 151 ft. below the 600. The 600 was connected with the winze from the 500 on Jan. 20; it is now 4 ft. past the winze. The whole face of the drift is in ore, but it is of rather low grade; a portion of it only is of sufficient value to ship, but is now improving as we advance. At the 500 south stope we are raising up in a large body of low grade ore and iron, which is the only work being done at this place at present on account of the ventilation being very poor. I expect to make a connection with the south drift from the east cross-cut on the 400 in a very few days, which will ventilate the south stope, when work will be resumed. A drift has been commenced from the south winze at a point 40 ft. below the 500; the ore has improved in size from 4 to 6 ft. wide, and of good quality. The 400 south drift from west cross-cut has advanced 27 ft. during the week; total 112 ft. from the west cross-cut. The 300 west cross-cut continues in very hard ground, but looks more favourable for ore; progress this week, 6 ft. Have shipped 104 tons ore this week. Have 40 men at work, and six tributers. Foreign refers to Dunderberg. The main incline has been cleared out and timbered to the 250, which we found partially filled up with waste rock. The air was also very foul, which retarded the work for several days. So far we have explored a drift 60 ft. in length from which a large amount of ore has at some former period been extracted. At a point 40 ft. from the incline we discovered

vered a winze supposed to be 70 ft. deep, but on account of the foul air we have not been able to examine it. Have shipped 15 tons ore, and have seven men at work.

**Telegram from Eureka, dated Feb. 15:** The week's run from the furnace was \$6000, from 132 tons of ore, producing 21 tons of bullion. The shipments of the week were 146 tons of ore. The roads are in such a state from snow as to retard shipments.

**PANULCILLO COPPER.**—F. G. Welch, Dec. 23: The production to date amounts to about 37,000 quintals metrico, at 5½ per cent. All work ceased on Dec. 24, and so few hands will return to work this week that any addition to the above figures cannot be anticipated. In anticipation of my report on the operations of the past six months, I beg to draw your attention to the fact that our explorations have not proved the lode so productive as could be wished. With the exception of the 20 metre level above and the 30 metre level below add all the bargains prove lode, but not to value. I am, however, firmly of the opinion that further and persistent exploration in most, if not all, of the bargains will prove better results, similar barren parts of the lode having often been encountered in previous years. Other points of the lode must, however, be attacked and developed at once and with all speed to meet future requirements. Production during the past six months will reach about 190,000 quintals metrico at 5½ per cent., at a higher rate of cost than estimated. My anticipations of a larger output at a lower cost than usual have been entirely put out by the unexpected and most unusually fierce weather of the past winter, the effects of which not only added to our own difficulties, but most seriously curtailed the delivery of carbonates from adjacent mines, thereby adding to an anticipated excess of smelting costs during the above period.—Smelting Works: Our total make of regulus may be estimated at about 5900 quintals metrico at 46½ per cent. copper.

**FLAVILLA.**—Jan. 24: The reason why I have not written for the last fortnight is that I expected to get through the shale every day, but we are not through it yet, but I have no doubt of striking the vein as soon as we get through. The south drift of the Brook's shaft looks better than I have seen it since we commenced to work there, and we have taken out last week fully a ton of good ore of an assay that we have not struck the vein through the breck, and I suppose you naturally feel a little discouraged; but I assure you I have more and more confidence, and like heget like, we are sure to find the mine.

**ARENDAL MINING AND SMELTING.**—J. Daw, Feb. 5: Since writing the report I have great pleasure in informing you that the lode in Benson's shaft will now produce 2 tons of ore per fathom. We have tried the new machinery, and intended to have been in full work to-day; but there is such an awful storm blowing, it is entirely out of the question. I believe it is your English one paying us a visit. Yesterday I telegraphed you thus: "Machinery tried; working well. Will work to-morrow. Inform father." As soon as the storm blows over we shall commence to dress, and will report thereon at the end of another week.

**CANADIAN COPPER.**—Francis Bennetts, Feb. 3: In order that you may have a full knowledge of all the circumstances connected with the mines it is necessary that I should inform you that there is a gradual and general improvement in the underground workings of the mine, and that they are showing fair indications of becoming valuable and productive mines. We have, however, during the past month been much delayed in surface work, dressing, &c., by the severity of the weather, several cases of frostbite having occurred amongst the surface hands, and although I am naturally anxious to show as large a return of dressed ore as possible, and hurry forward such surface work as requires to be done, my opinion is that such work will not only be badly done but be much more expensive, and on this account it is more profitable to do only at present that which is absolutely necessary to keep the mines working. As an instance of the difficulties with which we have had to contend, or rather the O. N. and C. Co. have had to contend, I may mention that the steam pipes that convey the steam from the boiler to the underground pump have frozen up; the feed-pipes have also frozen up, causing great and unavoidable delay in hauling. The O. N. and C. Co. have been much delayed from the break in the road to their boiler. This has arisen from the exceptionally dry summer and fall. —Acton Mine: The winze in the bottom of the 10, east of No. 5 shaft, continues without change since last report, the vein containing large patches of purple ores. The vein in the 30, east of No. 5 shaft, is also showing signs of an improvement. —St. Francis Mine: As reported last week, I put the men to sink in the bottom of the adit level, east of shaft, and in addition to the dredge vein passed through in the level we find a small branch of grey ores of about 1 in. thick, nearly solid; would probably assay from 45 to 50 per cent. for copper. There is an improvement in the 64, east of No. 1 winze, the vein being now branches of ores in the vein in this drift, one of about 1 ft. wide near the spoutstone, and another about 6 in. wide about 4 ft. from the wall.—Hartford Mine: The vein in the 40, east of No. 7 shaft, is increasing in size, and looking more promising. The vein in the 50, east of No. 7, is larger. We do not know its full width at present, but can see about 5 ft. wide of vein. The vein in the slope in the back of the 85 is also improving. Other stopes of the mine are without material change.—Cape Mine: The tributers are breaking some good ores, having a good vein for a short distance at the point at which they are working, and I think they will make fair wages at their prices, besides increasing the output of ores from the mine. We have not yet met with anything of value in the 68, south-east of the new shaft; the ground is still spotted with copper ore. The 63, south-east of No. 31 winze, is worth 1 ton of copper ore per fathom. No. 40 winze, sinking below the 58, has fallen off a little in value, now worth 2 tons of copper ore per fathom. Although the stopes show a little fluctuation at times they continue to yield remarkably well fully their estimated quantities.

**SPECTAKEL.**—Capts. Lankbury and Henwood, Dec. 25: The ground in the incline below the 64 shows spots of copper ore, and the sinking progresses favourably. In consequence of the 64, east of No. 1 winze, not having intersected anything more of value, and the rock in the present forecast being composed of hard granite, we have thought fit to suspend it. The 64, south from east level, is still producing 2 tons of copper ore per fathom. The winze sinking below the 64 is unproductive, but the ground shows indications of copper dipping eastward. The slope in the bottom of the 53 produces 3 tons of copper ore per fathom. We hope shortly to have the pipes completed from the bed of the river to the floors, when we trust to have sufficient water for our dressing operations.

**TRIAL MINES.**—Capts. Lankbury and Henwood, Dec. 31: Nababep: The drift of the 12, east of the shaft, progresses slowly. The slope in the bottom of 17 yields 1½ tons of copper ore per fathom. —New Centre West: The ground in bottom of trial shaft being poor, and not presenting any encouraging feature, it has been suspended, and the men put to open on the copper-bearing ground met with in sinking above.—Springbok: The sinking here is being pushed on with vigour. The ground during the last few days has become a little harder and less jointy.

Returns: From December, Ookiep, 1200 tons of 30 per cent.; Spectakel, 72 tons of 40 per cent.; Nababep, 27 tons of 19 per cent.—Arrivals at Swanssea: The Anne Beal, Goleonda, and 800 Jose.—Balling Rees: 450 tons per month. Arrivals at Port Nolloth: The Lieutenant Maury, Edward Vitor, Antonio Vincent, and Florence.—Sales of Ore: 575 tons, at 12s. 7½d. per unit.

**ENGLISH-AUSTRALIAN (Gold).**—Mr. S. G. Clark, under date Jan. 6, writes: I write a few lines to say that since Mr. Pollard last reported, up to last night only 200 tons of quartz have been crushed, partly through the holidays and partly through the water supply to the stamps being cut off to enable repairs to be done to some portion of the Government channel. We have, however, been able to work continuously from the 3rd inst. at 9 A.M., and I trust the crushing machine will not stop again, except for clearing up, for some time to come. We met with a little trouble on the 12th inst., so as to be able to send the net output with the monthly accounts.

**THE CRANSTON ROCK DRILL.**—This drill has been so frequently noticed in the *Mining Journal* that to say that it has given satisfaction wherever introduced would be superfluous. The progress which the drill has made since it was brought before the mining public in 1873 is marvellous, and the inventor, who has just returned to Newcastle-on-Tyne from Brazil, is now bringing it under the notice of the Panama enterprise. Those who have used them give very flattering testimonials. Mr. Gullberg, of Gothenburg, writes that in seven months it produced 100,000 cubic feet of granite stone required for foundation purposes of the new factory, and that it saves both time and labour. The contractor (Mr. John Waddell) of the Newport and Tayport Railway, N. B., states that each machine drills a 24-inch diameter hole about 5 ft. 6 in. deep per hour. The whin rock is very hard: the machines give entire satisfaction; and at West Moor Lineworks the cost of drilling by machine is one-fifth less as compared with that previously paid for hand labour. Capt. Frank Drake, Eberhardt and Aurora Tunnel, Nevada, U.S., also states "the six drills have been as good machines as ever was put in use; the tunnel is now driven over 6000 ft., and am highly pleased with all the machinery you furnished us." These examples might be increased to almost any extent, were it necessary, to afford further instances of the practical and economical value of this machine.

**THE MINERAL WEALTH OF ARIZONA.**—It is a very general opinion that Arizona will at no distant date command the attention of mining capitalists. The Longfellow Copper Mining Company, Apache County, Arizona, are taking, upon an average assay, daily during the year 14,000 lbs. of copper bullion. The company employ a large force of labourers, principally Mexican and Chinamen, probably aggregating 350. The monthly consumption of flour averages 25,000 lbs. The coke used in their smelters is brought from England, which, mixed with charcoal, makes a heavy blast. The greatest quantity of copper bullion run out from the furnaces in any one day weighed 25,000 lbs. The Longfellow is by no means the champion of the district, as there are many other properties equally good, judging from surface indications, and probably superior to the mine which is yielding such a large quantity of pure copper. Taking the group of copper deposits in conjunction that exists in the vicinity of Clifton, they constitute the greatest and most valuable copper deposits in the western hemisphere. Pima county continues to lead her sisters in the matter of mining for silver. Pinal County is also doing her duty in this respect. Maricopa County is a large contributor to the silvery current. Yuma County is producing a great deal

of gold and silver. Mohave County is doing her level best to make money plenty. Yavapai and Apache Counties are both yielding well. While the southern counties have of late led in successful mining, their citizens admit that the railroad now coming into the northern counties will be an impetus to mining in this section which will lead to great results.

**MINING ON LAKE SUPERIOR.**—A location north of the township of McTavish, and west of Black Bay, has been examined, says the North Shore Miner, by Mr. John C. Hosking, formerly of Truro, Cornwall. Upon it he found a large vein cropping out to the surface for about 30 chains on the course of the vein, and from 12 to 20 ft. wide. The rock formation in which the vein is encased is a coarse light brown trap; the vein is calcspar quartz, carrying a large quantity of lead throughout, equal to the best ever found at the surface, and from which he broke excellent specimens of rich lead ore. It has every appearance of being a productive vein, and running into high ground can be wrought economically. It is near Black Bay, and has easy facilities for the shipment of products, &c.

**MANA GOLD MINING COMPANY.**—A curious point was raised in the case of Guerbert v. Moir which arose out of the attempt to float this company. In November the Vice-Chancellor (Malins) ordered the plaintiff to give 50% security for costs, and the managing clerk of his solicitors, Messrs. Brandon, gave a verbal undertaking to do so. A solicitor being an officer of the Court is not required to sign any book or document in such a case, the Court accepting his word as sufficient. The plaintiff being a foreigner and at present beyond the jurisdiction of the Court, Messrs. Brandon disputed their personal liability for the 50%, and also that they should be bound by their clerk's undertaking on their behalf. The Vice-Chancellor held that Messrs. Brandon, as sureties for the plaintiff, must pay the 50% into Court.

**"SOW AND REAP."**—The February number of this periodical contains amongst other things an interesting article on the divining-rod in which the writer—Mr. W. Thompson—says that a little practice in a person in earnest about it will soon give him the necessary adroitness in the use of the instrument; but it must be particularly observed that as our animal spirits are necessary to this process, so a man ought to hold the rod with the same indifference and inattention to or reasoning about it or its effects as he holds a fishing-rod or a walking-stick; for if the mind be occupied with doubts, reasoning, or any other operation that engages the animal spirits, it will divert their powers from being exerted in this process, in which their instrumentality is absolutely necessary. From hence it is that the rod constantly answers in the hands of peasants—women and children—who hold it simply without puzzling their minds with doubts or reasoning. Whatever may be thought of this observation it is a just one, and of consequence in the practice of the rod. All rods, however, in all hands answer to springs of water. Many readers may doubt the attractive powers of the divining-rod, but we can assure them the writer has proved what he has written from actual experience in almost every mining district of Cornwall, not certainly with a view of discovering lodes, but of proving the efficacy of the rod where lodes were known to exist.

Messrs. HARRINGTON, HORAN, and Co. (Liverpool, Feb. 15)—Chill copper charters for first half this month are advised as 1100 tons, all bars and ingots, of which 800 tons are for England, and 300 tons for the Continent. Shipments during January were 2200 tons. Since our last report only a moderate business has been done in Chill bars at 64½ to 63½, 6d. according to prompt and brand. Market to-day is steady at 62½ for good ordinary brands on the spot. The transactions in furnace material during the past fortnight comprise 100 tons Chill regulus spot Swansea at 12s. 8d., 580 tons Peruvian and 22 tons Battle Mountain ores here at 12s. 7½d., 880 tons Libiola and 600 tons Cape ores spot Swansea at 12s. 7½d., 200 tons English precipitate at 12s. 7½d. to 12s. 9d., 50 tons Rio Tinto precipitate to arrive here at 12s. 9d., 122 tons Portuguese precipitate (Aljustrel) at 12s. 4½d., a small lot at 12s. 9d., and at to-day's Swansea sale by tender 1143 tons ore, average produce 9 per cent., realised 12s. 4d. per unit. Import of Chill copper during the past fortnight 2030 tons fine, against 2531 tons fine same time last year. Delivery during past fortnight 1084 tons, against 2078 tons same time last year. Arrivals here during the fortnight of West Coast, S.A., produce: Britannia (s), from Valparaiso, &c., 330 tons ores, 100 tons ingots; W. Röhl, from Pisco, 250 tons ores. At Swansea: Mary Jose, from Tocopili, 449 tons ores, 457 tons regulus; Henry Bath, from Carrizal, 725 tons regulus; Alpha, from Lota, 583 tons bars; Magnet, from Tongoy and Guayacan, 725 tons bars. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	—	19,581	200	—
Swansea	—	2467	11,395	—	—
Total	—	2467	30,976	200	—

Representing about 32,286 tons fine copper, against 31,340 tons Jan. 31; 30,949 tons Feb. 14, 1880; 27,576 tons Feb. 14, 1879; 16,551 tons Feb. 15, 1878. Stock of copper contained in other foreign ore and Spanish precipitate, 1371 tons fine, against 533 tons Feb. 14, 1880. Stock of Chill copper in Havre, 6102 tons fine, against 2550 tons Feb. 14, 1880. Stock of Coro Coro barilla in Havre, 283 tons fine, against 70 tons Feb. 14, 1880. Stock of Chill copper refined and chartered for to date, 13,050 tons fine, against 19,000 tons Feb. 14, 1880. Stock of foreign copper in London, chiefly Australian, 7965 tons fine against 5400 tons Feb. 14, 1880. According to the Board of Trade Returns the total imports and exports into and from this country for the first eleven months of the following years were—

	1879.	1880.	1881.
IMPORTS.			
Copper in ores	910	976	626
Copper regulus and precipitate	2,013	1,846	1,522
Bars, cakes, and ingots	5,013	1,441	1,011
In pyrites (estimated)	1,089	1,287	887
Total	9,025	5,550	4,046
EXPORTS.			
English copper, wrought and unwrt.	2,281	1,909	2,594
Foreign copper, unwrought	751	1,035	1,009
Yellow metal	776	1,139	1,267
Total	3,808	4,133	4,870

**TIN-PLATE TRADE.**—Mr. Arthur Bird (Feb. 15) writes: At the present time the Board of Trade returns for the first month in the year are extremely good, and lead us to hope for a continuance of favourable exports during the ensuing months; for he believes that in many countries such are daily growing and increasing in population, the use of tin-plates and tinware is of infancy, and the development of the trade in the American States is practically unlimited. The forced stoppage of works seems more likely to be realised, as many who have started during the last two years or so, with but limited capital, must sooner or later succumb to the heavy losses on manufacturing, unless relief shortly appears in the shape of a better demand at higher prices. A long range of cheap prices naturally tends to stimulate consumption in every possible way, and this benefit will, no doubt, be felt as soon as shortened supply and the steady increase in demand, which he confidently looks forward to, have been able to restore the equilibrium of the trade, and place it on a more profitable basis. Without authentic returns from the makers themselves, it is quite impossible to compile any accurate figures showing the exact position of the trade. If these could be periodically obtained and privately circulated, the information would be of great value—more, of course, to the manufacturers than consumers; but, roughly speaking, it may be taken that at the present rate of production we have an actual make annually of more than 500,000 boxes in excess of legitimate requirements.

**HOLLOWAY'S OINTMENT AND PILLS.**—Much watchfulness must be exercised as winter advances, and the earliest evidences of ill-health must be immediately checked and removed, or a slight illness may result in a serious malady. Rheumatism and ulcerated throat, quinsy, throat cough, chronic cough, bronchitis, and most other pulmonary affections will be relieved by rubbing this cooling ointment into the skin as near as practicable to the seat of mischief. This treatment, so simple and effective, is admirably adapted for the removal of these diseases during infancy and youth. Old asthmatic invalids will derive marvellous relief from the use of Holloway's remedies, which have brought round many such sufferers, and re-established health after every other means had signally failed.

## COPPER ORES.

Sampled Feb. 2, and sold at Swansea, Feb. 15.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Betta Cove	100	7½	£4 6 8	Berthaven	86	7½	£4 13 6
ditto	100	7½	4 9 0	ditto	69	8	4 15 6
ditto	100	7½	4 9 0	ditto	68	8	4 16 0
ditto	100	7½	4 9 0	ditto	14	13½	8 16 0
ditto	100	7½	4 8 0	La que lo	142	21½	12 17 6
ditto	100	7½	4 10 0	Abarca	119	13½	8 13 0
ditto	100	7½	4 10 0	Copper Ore	9	10½	6 3 0
ditto	100	7½	4 10 0	Cuba Precip.	24	55½	34 15 6
ditto	3	4½	2 13 0	ditto	5	15½	9 3 0
ditto	1	10½	6 4 6				

	Tons.	Produce.	Price.		Tons.	Produce.	Price.
Betta Cove Ore	804	£3574	3 6	Copper Ore	9	£55	11 6
Berthaven Ore	237	1180	13	Cuba Precip.	29	880	7 6
La que lo Abarca	61	705	2 0				

Names.	Tons.	Amount.
Copper Miners' Company	13	£69 15 0
P. Grenfell and Sons	55	262 0 0
Nevill, Druce, and Co.	24	834 12 0
Vivian and Sons	300	1,423 2 0
Williams, Foster, and Co.	380	1,937 7 0
Mason and Elkington	168	1,138 2 0
Charles Lambert and Co.	190	1,080 19 6
Total	1140	£6,395 17 6

Total.....		1140	£ 6,395 17 6	
NO SALE March 1.				
TOTALS AND AVERAGES.				
	21 cwts. Produce.	Price.	Per unit.	Standard
Whole sale	1140	9	£5 12 2	12s. 4d.
				£47 6 4



TWO GOLD MEDALS.



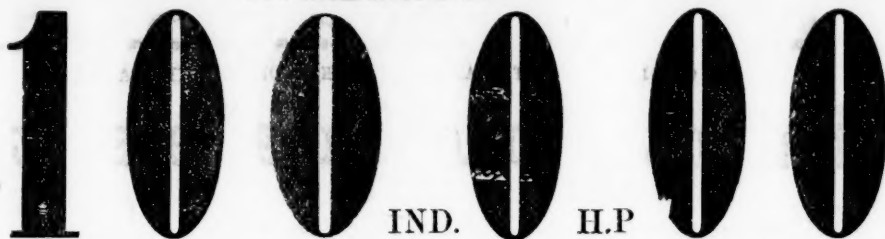
SOLE MAKERS—

**The LEEDS FORGE CO., Ltd.**

Leeds, Yorkshire.

# FOX'S PATENT CORRUGATED FURNACE FLUES,

NOW APPLIED TO OVER



PARIS, 1878.

PRICE LISTS AND  
PARTICULARS  
ON APPLICATION.

## E. P. & W. BALDWIN, WILDEN WORKS, N<sup>R</sup>. STOURPORT,

MANUFACTURERS OF

**SHEET IRON.**

Brands—

“BALDWIN-WILDEN” AND “SEVERN.”

STAMPING SHEETS, BUTTON IRON AND SHEET IRON, PICKLED, COLD R LLED AND CLOSE ANNEALED.

“E P & W B”  
W H**TIN PLATES.**

Brands—

“WILDEN” “UNICORN” “ARLEY” “STOUR.”

## CLAYTON AND SHUTTLEWORTH,

STAMP END WORKS, LINCOLN, &amp; 78, LOMBARD STREET, LONDON.

**GOLD MEDALS, AND OTHER  
PRIZES,**
Have been awarded to CLAYTON AND SHUTTLEWORTH at the  
various International Exhibitions of all Nations, includingLONDON, 1851, 1862,  
PARIS, 1855, 1867, 1878,  
VIENNA, 1857, 1866, 1873,

for their

STEAM ENGINES (Portable or Fixed).

THRESHING MACHINES.

GRINDING MILLS.

TRACTION ENGINES, &amp;c.

Catalogues in English and in all the Continental Languages  
free on application.

The Royal Agricultural Society of England have awarded

**EVERY FIRST PRIZE TO CLAYTON AND SHUTTLEWORTH**

For Portable and other Steam Engines since 1863, and Prizes at every meeting at which they have competed since 1849.

## STEVENSON'S UNDERGROUND WINDING ENGINE,

DESIGNED FOR USING COMPRESSED AIR OR STEAM.

SIMPLE, COMPACT, PORTABLE.

Silver Medal, Royal Cornwall Polytechnic Society, 1876.

No. 1 size, 7 in. single cylinder, with 2 ft. drums.  
No. 2 size, 9 in. single cylinder, 2 ft. 6 in. drums.  
A,— 6 in. double cylinder, with 2 ft. 3 in. drums  
B,— 8 in. “ “ “ 3 ft. 0 in. drums.  
C,— 10 in. “ “ “ 3 ft. 6 in. drums.  
D,— 12 in. “ “ “ 4 ft. 6 in. drums.  
E,— 14 in. “ “ “ 5 ft. 0 in. drums.

MANUFACTURED BY

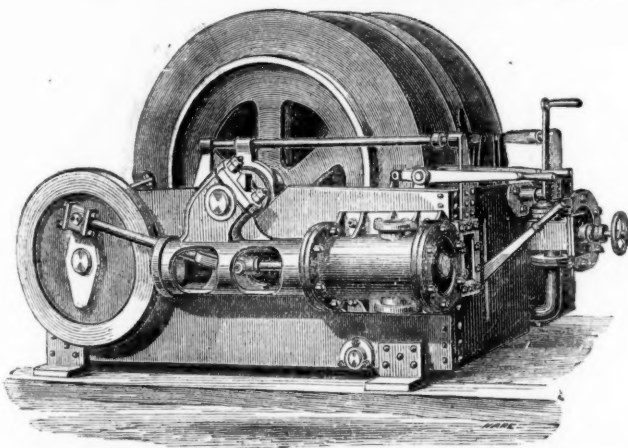
**THE USKSID CO.,**ENGINEERS, MAKERS OF PUMPING AND WINDING  
MACHINERY, AND FORGINGS OF EVERY  
DESCRIPTION.**NEWPORT, MON.**

Agents for the six Northern Counties—

TANGYE BROTHERS, ST. NICHOLAS BUILDINGS,

NEWCASTLE-ON-TYNE.

[This Advertisement appears fortnightly.]



## CHAPLINS' PATENT STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION.

**STEAM CRANES,**

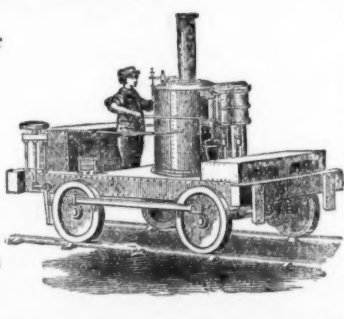
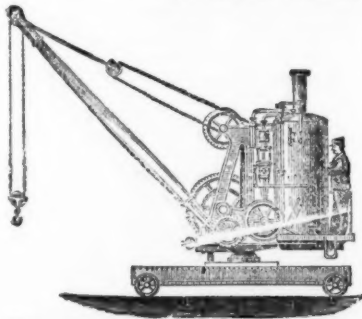
Portable: Fixed for Railways, Wharves, &c., for  
unloading  
COAL BALLAST, &c.,  
up to 30 tons.

**LOCOMOTIVES,**

6 to 27-horse power. For Steep Inclines and  
Sharp Curves.

Gauge from 2 feet upwards.

Geared to draw very heavy weights in proportion  
to their power, and SPECIALLY  
SUITABLE FOR

**Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gasworks, &c.**

These Cranes were selected by H.M. Commissioners to receive and send away the Heavy Machinery in the International Exhibitions 1862, 1871, and 1872.

**WIMSHURST, HOLLOCK, & CO., ENGINEERS.**

Works: REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST, LONDON, E. (near Stepney Station)

CITY OFFICE: 2, WALBROOK, LONDON, E.C.

## WILLIAM BENNETTS,

PATENT MINERS'

**SAFETY FUSE  
MANUFACTURER.**


This manufacture embraces all the latest improvements for use in  
Blasting in Mines, Quarries, or for Submarine Purposes; and is  
adapted for exploding Gunpowder, Dynamite, or any other Explosive;  
and is made suitable for exportation to any part of the world.  
Price Lists and Sample Cards on application.  
All communications to be addressed—

**ROSKEAR FUSE WORKS,  
CAMBORNE, CORNWALL.**

## INCREASED VALUE OF WATER-POWER.

### MacADAM'S VARIABLE TURBINE.

This Wheel (which is now largely in use in England, Scotland, and Ireland) is  
the only one yet invented which gives proportionate power from both large and  
small quantities of water. It can be made for using a large winter supply, and  
yet work with equal efficiency through all variations of quantity down to a fifth,  
or even less if required. It is easily coupled to a steam-engine, and in this way  
always assists it by whatever amount of power the water is capable of giving,  
and therefore saves so much fuel.

This Turbine is applicable to all heights of fall. It works immersed in the fall-  
water, so that no part of the fall is lost, and the motion of the Wheel is not  
affected by floods or back-water.

References to places where it is at work will be given on application to—

**MacADAM BROTHERS AND CO.,  
BELFAST.**
**CALIFORNIAN AND EUROPEAN AGENCY.**

509, MONTGOMERY STREET, SAN FRANCISCO, CAL.

E. J. JACKSON, Manager.

TO PARENTS AND GUARDIANS.

**AN ELIGIBLE OPPORTUNITY** is now offered for the  
SETTLEMENT of an ACTIVE YOUNG GENTLEMAN IN CANADA.  
He will be enabled to obtain his profession as a Solicitor in five, or if he be a Graduate in three years. Cost of living about £150. In the meantime he will have  
active work, and obtain a knowledge of the Dominion, which is destined to be  
one of the most prosperous of the Colonies. Premium, £100 sterling.

HERBERT C. JONES,

Canada Land and Loan Agency.

32, Wellington-street, Toronto.

## THE IRON AND COAL TRADES REVIEW.

The IRON AND COAL TRADES REVIEW is extensively circulated amongst the  
Iron Producers, Manufacturers, and Consumers, Coalowners, &c., in all the iron  
and coal districts. It is, therefore, one of the leading organs for advertising every  
description of Iron Manufactures, Machinery, New Inventions, and all matters  
relating to the Iron, Coal, Hardware, Engineering, and Metal Trades in general.  
Offices of the Review: 7, Westminster Chambers, S.W.  
Remittances payable to W. T. Pringle.

MAPS OF THE MINES, AND OF UTAH TERRITORY

**FROISSETH'S NEW AND REVISED MAP FOR 1875.**  
Size 40 by 56 inches, scale 8 miles to the inch. Handsomely engraved,  
coloured in counties, showing the Towns, Settlements, Rivers, Lakes, Railroads,  
Mining Districts, &c., throughout the Territory, and all the Government Surveys  
to date. Mounted on cloth, £2; half-mounted, £1 12s.; pocket form, £1.

Also, GENERAL MINING MAP OF UTAH, showing twenty-eight of the  
principal Mining Districts adjacent to Salt Lake City, and location of the most  
prominent mines. Price, pocket form, 6s.

Also, NEW MAP OF LITTLE AND BIG COTTONWOOD MINING DISTRICTS  
showing the location of over Four Hundred Mines and Tunnel Sites, together  
with the Mines Surveyed for United States Patent. Price, sheets, 6s.; pocket  
form, 8s.

For sale, and supplied by—  
TRUBNER and Co., 57 and 59 Ludgate Hill, London.  
B. A. M. FROISSETH, Salt Lake City, Utah, U.S.

**MONEY LENT**, at EIGHT, NINE, and TEN PER CENT., on  
FIRST MORTGAGE of FREEHOLDS for IMPROVEMENTS and  
STOCKING, said freeholds in the Province of MANITOBA.  
Address, HERBERT C. JONES, Solicitor, 20, Masonic Hall, Toronto.

## THE MINING RECORD.

Only \$3.00 a year  
61, BROADWAY, NEW YORK.  
It is the ONLY PAPER in the United States that gives FULL LATEST ACCOUNTS  
from all the GREAT GOLD, SILVER, IRON, and COAL MINES of AMERICA.

ORDERS EXECUTED FOR MINING STOCKS. Information free  
ALEX. ROBT. CHISHOLM, Proprietor,  
London Office—H. J. CHAWNER, Manager, 3, Catherine-street, Strand, W.

**MR. WILLIAM BREDEMAYER, MINING, CONSULTING  
AND CIVIL ENGINEER, U.S. MINERAL SURVEYOR for UTAH and  
IDAHO. NOTARY PUBLIC.**

Geological examinations; reports on mining properties; surveys mines, rail-  
roads, and canals, and superintends the workings of the same; prepares esti-  
mates and plans for opening and working mines. Expert on mining questions  
before the Courts. Address, P.O. Box 1157, Salt Lake City, Utah.



## THE GRAND PRIZE, THE TRIPLE AWARD.

Gold Medal, Silver Medal, and Honourable Mention awarded at the Paris Exhibition, in competition with all the World,  
FOR MY LATEST PATENTED STONE BREAKERS AND ORE CRUSHERS.

HIGHEST AWARDS  
FROM THE  
MINING INSTITUTE  
OF CORNWALL.

# H. R. MARSDEN,

ORIGINAL PATENTEE AND SOLE MAKER OF BLAKE-MARSDEN

PULVERISERS,  
B O N E M I L L S  
MORTAR MILLS  
&c. &c.

## Improved Patent Stone Breakers & Ore Crushers.

New Patent Reversible Jaws,  
in Sections with Patent  
Faced Backs.

NEW PATENT ADJUSTABLE  
TOGGLES.

OVER 2750 IN USE.

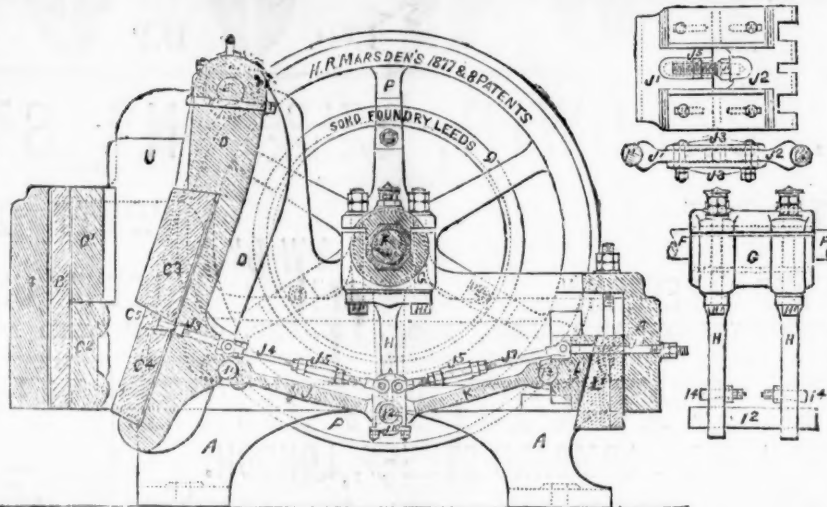
NEW PATENT WROUGHT-IRON CONNECTING  
ROD.

New Patent Draw-back  
Motion.

NEW PATENT STEEL TOGGLE BEARINGS.

60

PRIZE MEDALS.



8, Queen-street-place, London, E.C.  
DEAR SIR,—We have adopted your Stone Breakers at  
many of the mines under our management, and are  
pleased to be able to state that they have in all cases  
given the greatest satisfaction.

We are, yours faithfully,  
JOHN TAYLOR AND SONS,  
H. R. Marsden, Esq.,  
Soho Foundry, Meadow-lane, Leeds.

St. John del Rey Mining Company (Limited).  
A SAVING OF FIFTY-FIVE HANDS BY THE USE OF  
ONE MEDIUM-SIZED MACHINE.

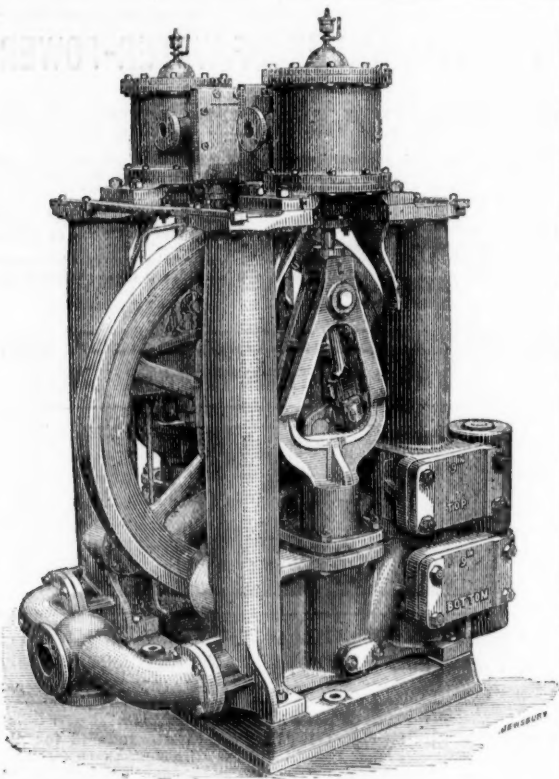
BLAKE'S STONE BREAKER.—Statement made by the Ma-  
naging Director of the St. John del Rey Mining Company,  
Mr. John Hockin, with regard to six months' practical  
working of Blake's Stone Breaker, affording facility for  
judging of the relative economy of machine and hand  
labour in this kind of work, and also of the cost of getting  
the Stone Breaker to work in difficult places. The price  
paid to Mr. Marsden for the machine referred to by Mr.  
Hockin was £180, and adding to this the cost of engine,  
carriage, and fixing, the aggregate cost to the company  
of the Breaker in working order was £500. By this outlay  
the company is enabled to dispense with the labour of 55  
people, the value of which is £600 per annum. The cost  
of working the machine could not be more than the wages  
of about five men (the machine requires but one man to  
feed it, so that the rest would be for engineer, fuel, oil,  
&c.), and allowing for interest on outlay and for renewal  
when necessary, the saving must be enormous.—Mining  
Journal.

ALL BEARINGS are renewable, and made of H.R.M.'s Patent Compound ANTIFRICTION METAL.

CATALOGUES, TESTIMONIALS, &c.

H. R. MARSDEN, SOHO FOUNDRY, LEEDS.

Patentee of the New Patent Special Fine Crusher, for reducing Gold Quartz, Lead Ore, and all kinds of Materials to an im-  
palpable powder. Awarded the FIRST SILVER MEDAL by the Cornwall Mining Institute. Particulars of results, &c., on  
application.



STEAM PUMPS for COLLIERY PURPOSES, specially adapted  
for Forcing Water any height; also for Sinking; and for Feeding  
Boilers.

JOHN CAMERON has made over SIX THOUSAND.

WORKS OLDFIELD ROAD, SALFORD, MANCHESTER.

SILVER MEDALS AWARDED AT CORNWALL POLYTECHNIC  
1872 AND 1876.

THE WELL-KNOWN PATENT SELF-ACTING ORE  
DRESSING MACHINERY, as in operation at most of the  
large Mines in the Kingdom and Abroad, is now supplied solely by  
THE PATENTEE AND MANUFACTURER, Mr. GEORGE GREEN,  
Mining Engineer, AT GREATLY REDUCED PRICES; also all  
descriptions of Mining Machinery, including

GOLD AND SILVER AMALGAMATING MACHINERY, complete  
Stamp Mills, Water Wheels, Steam Engines, &c.

ROLLER SHELLS FOR CRUSHING MILLS—a speciality.

SPECIAL DESIGNS FOR EXPORT AND DIFFICULT TRANSIT.

Prices and particulars on application to the Manufactory,  
ABERYSTWTH, SOUTH WALES.

Now ready, price 3s., by post 3s. 3d., Sixth Edition: Twentieth Thousand  
Copy, much improved, and enlarged to nearly 300 pages.

HOPKIN'S CONVERSATIONS ON MINES, between Father and  
Son. The additions to the work are near 80 pages of useful information,  
principally questions and answers, with a view to assist applicants intending to  
pass an examination as mine managers, together with tables, rules of measure-  
ment, and other information on the moving and propelling power of ventilation,  
a subject which has caused so much controversy.

The following few testimonials, out of hundreds in Mr. Hopkin's possession,  
speak to the value of the work:—  
"The book cannot fail to be well received by all connected with collieries."—  
Mining Journal.

"The contents are really valuable to the miners of this country"—Miners' Con-  
ference.

"Such a work, well understood by miners, would do more to prevent colliery  
accidents than an army of inspectors."—Colliery Guardian.

London: MINING JOURNAL Office, 26 Fleet-street, E.C., and to be had of all  
booksellers.

## THE "CHAMPION" ROCK BORER

MINE AND QUARRY STANDS, STEEL DRILLS, SPECIALLY PREPARED INDIARUBBER HOSE, TESTED  
IRON PIPES, &c.



### Air-Compressing Machinery,

Simple, strong, and giving most excellent results, and

ELECTRIC BLASTING APPARATUS.

Full particulars of rapid and economical work effected  
by this machinery, on application.

R. H. HARRIS, late

ULLATHORNE AND CO., 63, QUEEN VICTORIA STREET, LONDON, E.C.

HIGHEST AWARDS:—



PARIS EXHIBITION, 1878.  
YORK EXHIBITION, 1879.

SALMON, BARNES, & CO.,

MANUFACTURERS OF THE PATENT

ROANHEAD ROCK DRILL,

ALSO OF

ATKINSON'S PATENT



PARIS EXHIBITION  
1878.

## FEED WATER HEATER.

FULL PARTICULARS AND PRICES ON APPLICATION.

Canal Head Foundry and Engineering Works, Ulverston,  
LANCASHIRE.

GOLD MEDAL AWARDED, PARIS EXHIBITION 1878.

THOMAS TURTON AND SONS,

MANUFACTURERS OF

MINING STEEL of every description.

CAST STEEL FOR TOOLS. CHISEL. SHEAR. BLISTER. & SPRING STEEL  
MINING TOOLS & FILES of superior quality.

EDGE TOOLS, HAMMERS, PICKS, and all kinds of TOOLS for RAILWAYS, ENGINEERS, CONTRACTORS, and PLATELAYERS.  
LOCOMOTIVE ENGINE, RAILWAY CARRIAGE and WAGON SPRINGS and BUFFERS.

SHEAF WORKS & SPRING WORKS, SHEFFIELD.

LONDON OFFICES—90, CANNON STREET, E.C. PARIS DEPOT—12, RUE DES ARCHIVES. BOSTON MASS., U.S.—40, KILBY STREET.

J. WOOD ASTON AND CO., STOURBRIDGE

(WORKS AND OFFICES ADJOINING CRADLEY STATION),

Manufacturers of

CRANE, INCLINE, AND PIT CHAINS.

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES,  
FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS  
RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c.

Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions

WELDED STEEL CHAINS

FOR CRANES, INCLINES, MINES, &c.,  
MADE ALL SIZES.